THE MEDICAL JOURNAL OF AUSTRALIA

VOL. I.—44TH YEAR SYDNEY, SATURDAY, FEBRUARY 2, 1957 No. 5

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THE MORAL VERSUS MEDICAL CONTROVERSY: AN EARLY STRUGGLE IN COLONIAL VICTORIAN PSYCHIATRY.

By KEITH M. BENN, D.P.M.,
Department of Mental Hygiene, Victoria.

ATTEMPTS to survey the early administrative history of mental hygiene frequently meet with insurmountable difficulties. Jones (1955) reports that during the eighteenth and nineteenth centuries there were many treatises upon mental illness, but, owing to the lack of any central control, little effort was made to collect material related to administrative problems. In most cases asylums kept no records, in an effort to hide their deficiencies. Perhaps one of the oldest and most famous asylums is Bethlem, but even in this case no records are available prior to 1914. A survey of the archives of the Victorian Department of Mental Hygiene reveals a pleasantly different picture; records exist taking us back to the time of the first asylum at Yarra Bend. For this reason, I believe an examination of early colonial psychiatric history is considerably more productive in the study of administrative dynamics.

In this more sophisticated age, there is a general belief that the form and quality of administration are contingent on a large number of demands arising from the society within which the administration operates. We think here of the cultural, political and scientific beliefs current at the time, and of the way in which, and of the extent to which, the form of administration makes possible their realization.

Man never has been satisfied to accept a passive role in relation to his environment. Accordingly, society has continued to develop new social beliefs and demands, and by social action has pressed for their realization. Administration, or more generally social organization, involves an element of inertia, an inertia which arises from the human element and the difficulties of changing legislation. In time this lack of progress between the two leads to a conflict. But because need and social demand are compelling and generated by the ever-pressing reality of society, and because social organization is an artifact, the latter must yield. History represents these clashes in the form of governmental inquiries, newspaper exposures *et cetera*; the "yieldings" appear as legislative change and changes in governmental personnel.

During the middle of the last century, Victorian government policy and public conscience came into conflict over an issue which has since become referred to as the moral and medical management of the insane. It was not, however, a novel issue, for during the late eighteenth and early nineteenth centuries it had been the source of many of the struggles in English mental hygiene.

The terms "moral" and "medical" varied in meaning according to the authority. To some, "moral" meant recognizing the patient as a sick individual requiring humane and sympathetic handling. To others, it meant more the recognition of religious causes of psychiatric disorder, and

as a logical consequence, the necessity to exhort the patient to prayer and to accept theological beliefs. Moral treatment, therefore, was based on the belief that the mentally ill could be returned to normality by the use of rational argument. This attitude was the antithesis of that body of thought which recommended punishment and harsh methods of restraint and seclusion. Generally the latter attitude was identified with the medical treatment of the insane and was, of course, in the hands of the physician.

One of the first practical applications of the "theory" of moral treatment was at the York Retreat. This institution was founded by the Society of Friends in 1792, and was primarily the brain child of William Tuke (1732 to 1822), a Quaker tea and coffee merchant. He was a man of outstanding ability and drive who had developed a strong distrust of the medical profession and its methods. It is to be remembered that his views arose out of a struggle against the York Asylum, in which he gave leadership—a struggle which finally led to an inquiry that revealed a heart-breaking picture of negligence, cruelty and corruption. As a result, his attention shifted to those principles of management resulting in kindness, tolerance and patience.

Punishment was forbidden under this regime; in its stead was substituted the principle that the granting of amenities to patients would foster self-control. Tea parties were organized, and patients urged to attend wearing their best clothes. Limited sports were available, and airing courts were supplied with a number of small animals—rabbits, poultry *et cetera*—as it was believed that patients might develop self-control by having dependent upon them creatures weaker than themselves. Writing materials and a limited series of novels were available. There was a pronounced emphasis upon religious instruction. These methods stood in complete opposition to the methods of the mental hospital, and it is little wonder that medical methods were almost completely discarded. Jones (1955) reports as follows:

> Accordingly, medical treatment took a subordinate place at the Retreat. Drugs were seldom used to quieten elated patients. Dr. Fowler stressed the curative and soothing effects of warm baths, especially in cases of melancholia.

An independent and parallel attitude was developed by Ferrier at the Manchester Lunatic Asylum in 1795. Ferrier stated his views thus:

> I find it useful to remonstrate, for lunatics frequently have a high sense of honour, and are sooner brought to reflection by the appearance of indignity than by violence, against which they usually harden themselves . . . Small favours, the show of confidence and apparent distinction, accelerate recovery.

The year 1828 saw the appearance of George Allen Burrows's "Commentary on the Causes, etc., of Insanity". Burrows divided the causes of insanity into two types—the "moral" and the "physical". To him, "moral" had a specialized meaning and denoted emotional or affective causes, whilst "moral treatment" was treatment directed through the emotions.

These attitudes resulted in a progressive development of the belief that psychiatric ill health could be reversed by exhortation of the patient with the power of logic or religion, by humanism and recognition of the dignity of the individual, and by the development of his social relations. At this time, medical treatment was coercive, anti-humane and strongly identified with the apothecary and physician. As a result, the dichotomy of "moral" versus "medical" frequently, but not always, resolved itself into lay versus medical.

One logical consequence of the "moral" attitude was opposition to restraint; but curiously enough, it was this aspect of "moral" treatment which was accepted by the physicians, and which resulted in the resolution of the medical versus lay struggle. During 1828, the physicians Charlesworth and Hill initiated the principle of non-restraint at Lincoln Asylum. This introduced an era during which physicians modified medical treatment in the light of "moral" concepts. In 1839 a similar development took place at Hampton Asylum and Hanwell Asylum. Shortly after these dates, the medical profession, almost as a whole, came to accept the view that they were responsible for both aspects of treatment. The lay superintendent opposed this view, believing that he was competent to fulfil the role of "moral" therapist. Medical treatment, in his view, was either to be rejected or, at the most, regarded as merely supportive. Generally speaking, these were the issues at stake in the lay versus medical controversy.

The Australian Colonies were isolated from England by distance, and as a result the controversy often developed along atypical lines. Also for this reason the issues were raised at the later period of mid-nineteenth century. The mental institution at Tarban Creek, New South Wales, appears to have been the first centre disrupted by this controversy. Bostock (1951) describes Digby, the lay superintendent, as a well-meaning, humane person, who undoubtedly regarded himself as a capable "moral" therapist. Dr. Campbell, an equally capable opponent, regarding himself as competent to control both aspects of treatment, set himself the task of capturing the administration of the hospital. He successfully accomplished this in 1850, after a governmental inquiry into the state of affairs at the asylum. Clearly, this case conformed to the lines laid down by English precedents.

The Colony of Victoria followed less typical lines, in that the term "moral" varied in meaning according to the personalities who were involved in the controversy. Whilst the struggle developed essentially from support of a principle, the participants were human, and as a result, secondary issues such as political factors, graft, corruption and personal factors, to name a few, arose on the individual level.

The Yarra Bend Lunatic Asylum was the first mental hospital built in the colony. Previous to its erection, it had been the custom to house mental patients in the gaols, and, no doubt, completion of the asylum removed many anxieties for the administrators. *The Argus*, of February 29, 1848, reported the building of the asylum and expressed its hope that there would be no jobbery by Mr. Latrobe in the matter of appointments, and, keeping in mind the state of Tarban Creek, it trusted that this asylum would not utilize the methods employed in the gaol. Unfortunately, as subsequent events show, this warning was ignored by Mr. Latrobe and proved to be one of the many embarrassments that he had to face.

Medical supervision of the asylum was a responsibility of the Assistant Colonial Surgeon, Dr. Patrick Cussen, who, according to "Garryowen" (1888), was a "white headed, red faced, brown coated, good humoured, though choleric little fellow". Cussen led the asylum through its first difficult formative year, to be succeeded upon his death in 1849 by Dr. O'Mullane for a short time, and then by Dr. John Sullivan.

At this stage the Superintendent of Port Phillip, Charles Latrobe, was not in possession of powers of committal and discharge of patients, therefore it was necessary to proclaim the asylum a ward of Tarban Creek Asylum. In spite of this, a superintendent in charge was appointed. The appointee was Mr. George Watson, a non-medical man who was an ex-army officer. This man was not inexperienced in mental hygiene administration, inasmuch as he had held the post of clerk at Tarban Creek prior to accepting his Victorian appointment.

Watson, his wife and four children took up residence at Yarra Bend during September, 1848, but officially he did not commence duties until October 10. On October 5, 1848, the first patients, seven females and three males, were received from the Melbourne Gaol. With the typical bluntness of the time, the local newspapers reported the matter, publishing the names of the 10 unfortunate patients. It appears that the medical supervision of patients was left to Sullivan, but how seriously he took this task may be gauged from the fact that he visited the asylum only three times per week. Watson, on the other hand, was referred to as the "moral superintendent", but one gathers that he did not hold classical views on the meaning of "moral". For him, it meant lay administration, the widespread use

of punitive measures against "difficult" patients, but some degree of counselling of patients. This dichotomy of therapy apparently was acceptable to both persons, and in the case of Sullivan we are obliged to postulate several reasons.

First, Sullivan had been trained during a previous medical era, an era that accepted this principle of administration. Secondly, he accepted this administrative device because it relieved him of a great deal of responsibility. Thirdly, and possibly of greatest importance, a precedent had been set by the appointment of lay superintendents to New South Wales asylums. In fact, at the very time when Watson was appointed to Yarra Bend, Digby was still superintendent, although finding it increasingly more difficult to maintain his position of authority owing to the efforts of the hostile Dr. Campbell.

The principle of lay administration was retained during the first three years of the asylum's existence. During the December, 1851, session of the Legislative Council, members learnt that the medical care of gaols, police and the lunatic asylum were proving to be an excessive task for the Colonial Surgeon. To relieve the strain upon this gentleman, a sum was placed upon the estimates for 1852 in order to appoint an assistant Colonial Surgeon who would relieve his senior of duties at the asylum. It was their intention that this officer should reside in Melbourne and have the right of private practice, except that, when this vote came up for discussion, Mr. Johnston, a member for the city, said that he regarded the medical attention of the patients to be of such importance as to warrant the appointment of a full-time resident medical officer. He moved that the vote should be increased so as to make this possible, and the proposal was accepted by the House.

The Argus of July 14, 1853, discussing this appointment in retrospect, attempted to enlarge on Mr. Johnston's intentions in this matter:

> It was the intention of Mr. Johnston, WE KNOW, in moving for the increased salary, that the medical man selected, should be placed in entire control of the institution and the patients it contained.

A wide search of documents does not reveal just how much this was the intention of Mr. Johnston, but the subsequent history shows that the omission had most unfortunate consequences.

The first appointment to this post was Thomas Embling, an English physician who had only recently entered the colony. He had graduated in February, 1829, and had entered a medical partnership with his brother in 1835, during which he had frequent contact with Hanwell Asylum. No doubt, it was in these quarters that he became indecrinated with non-restraint views, and learnt to accept as commonplace the notion that doctors should handle moral as well as medical treatment.

Embling commenced duties on January 22, 1852. He appears to have been a man of more than average ability—a restless, eager person, with definite ideas as to his own role and function. Superintendent Watson and Mrs. Watson, who acted as matron for the institution, urged him to live away from the hospital, stating that:

> . . . my duties at the asylum were only for one hour in the day, and I could spend the rest of my time with my family and could often sleep away from the asylum, as they could manage the place very well by themselves.

Watson added emphasis to this "advice" by offering as accommodation a bed in the corner of the dispensary. Embling decided that until such time as his family should arrive at the asylum, these unsavoury conditions could be accepted. Six weeks later, his wife and three children arrived at the asylum, and the accommodation was increased to a room and a tent. In these circumstances, one can excuse Embling for believing that these were manœuvres aimed at forcing him out of the asylum and away from any serious attempt to interfere with Watson's administration. While these tactics were undoubtedly initiated by Watson, Sullivan supported him in every decision, and fairly quickly Embling found himself opposed by the united partnership of the Superintendent and the Colonial Surgeon.

During this phase, Embling was striving for power and noting the faults of his rivals. He constantly badgered Sullivan for official status, for a definition of his duties, and even for a pass key. To all requests he received the official reply—"under consideration".

Initially Watson and Embling conducted their ward rounds together, but this practice was discontinued by Watson, as he refused to wait upon the medical officer each morning. Much the same state of affairs developed in regard to ward rounds with Sullivan. Ward rounds in the company of Mr. Watson appear to have been conducted with great haste, and a very real picture may be gained from a letter Embling sent to *The Argus* of July 14, 1853:

FIGURE I.

Dr. Thomas Embling, resident medical officer, Yarra Bend Lunatic Asylum, 1852 (from a portrait in the possessions of Mr. H. Austin Embling).

> My first impressions of the institution were those of great astonishment not unmixed with pain. I could only glance round as the superintendent ran through the wards, but I saw much that was incomprehensible, and much disreputable.

After this, Embling again requested the Colonial Surgeon to issue him with full instructions. Watson raised this issue with him at a later stage, and coolly assured him that "he could not relinquish an atom of his authority until he had orders to do so, and that, in fact, he had no right to receive me within the walls without official orders". Watson's incredible refusal to issue Embling with a pass key was probably his cruellest experience.

> The wards were sealed tablets to me, I had day by day kicked with might and main at the ward doors, and could not gain admission, although I have been seen the whole time by every member of the Superintendent's and Matron's family, and by the servants of

> the opposite wing of the asylum. At the same time, I knew, often that the attendants were within a few feet of the door, carousing or wiling their time away.

Embling found refuge in work. He insinuated himself into all corners of the asylum ordering baths, purgatives, setons, and head shavings, all fashionable treatments of the time. There were frequent rifts between him and the superintendent, particularly when he attempted to apply "moral" treatment to the patients. He removed manacles, camisoles, and restraining gloves in those cases in which he saw an indication, only to have his orders rescinded by Watson.

To all these disturbing activities, Watson had an effective reply. The nursing staff soon witnessed a series of incidents in which the superintendent discredited his medical officer in their presence. As they were already too eager to show their contempt for authority and love of mischief, this behaviour only served to reinforce their contempt for Embling. He held views on the nature of insanity completely alien to theirs—his was to reason, theirs was to punish—and Embling had not hesitated to make clear to them that they would soon need to mend their ways.

While these events were taking place, Embling was far from inactive. He was carefully noting the dreadful conditions under which the patients were forced to live and the corruption in every quarter, and recording wherever possible the indignities he was forced to suffer.

Embling was horrified to discover that the strait-jacket, handcuffs and lock-on gloves were in general use, at the discretion of the attendants. He noted the complete lack of any employment for the patients, and the resultant prevalence of disturbed behaviour amongst the inmates. It appears that the "shower bath" was frequently used as a method of controlling disturbed patients; but in the hands of the attendants it was used exclusively as a method of punishment. In many cases the fully clothed patient was forcibly held under the cold shower for three hours at a time. The discipline of the staff was at such a level that its members flaunted their drunkenness and immorality before Embling. There was, for example, the notable case of Susan Hever, who, arriving at the asylum during 1849, embarked upon a life of profligacy in the company of the Colonial Surgeon. After having developed this extraordinary liaison, the Colonial Surgeon caused a further stir by announcing his engagement to marry this woman. It is recorded that she was granted leave for a period of six weeks in order that she might be confined, after which she was reappointed as a female attendant. This raised the question of paternity of the child, and naturally it resulted in further deterioration of Sullivan's authority over the staff. Sullivan appears to have greatly lacked judgement and discretion in this case, for, not satisfied with his lapse, he drew even more attention to himself by attending and assisting at Hever's confinement. It is interesting to record that the proposed marriage did not eventuate; Hever shortly afterwards married an outsider and brought him to live with her at the asylum. The reappointment of this woman after her confinement did not conform with the *mores* of the time, and Watson and Sullivan were to learn that it is upon such questions that public opinion is most inclined to give expression.

Also symptomatic of the low state of affairs at the asylum was the case of William Donovan. Donovan had previously been admitted to the asylum as a patient upon two occasions, yet during Embling's tenure of office Sullivan recommended Donovan to Latrobe for appointment to the staff. There is some doubt whether he indicated that Donovan was still a patient—in fact, one can only speculate as to his motives for making such a recommendation. As a result, Donovan became possibly the only lunatic in history to carry out the duties and receive the salary of an attendant. Donovan was frequently left in charge of a ward, but seems to have used most of his time drinking while on duty. An impudent, quarrelling trouble-maker, he frequently became so drunk that it was necessary to seclude him in the cells for several days. There was also the matter of Mrs. Harding. On March 15, 1852, it was ascertained that she was pregnant. She claimed that the father was Donovan, and that the incident had taken place during one of the occasions on which she had gained leave from her ward. No action was taken against Donovan, nor was any measure introduced to prevent a recurrence.

Embling soon learnt that Watson had many personal sins to hide. For example, he conducted an extensive poultry farm at the asylum, from which, no doubt, he drew considerable profit. Subsequently, it was shown that patients' food had been diverted to the feeding of the birds, and that the government cart had been used to transport the eggs and birds to the market. Embling also discovered that the superintendent had in his employ a Mrs. Walters, an ex-patient of the asylum, who, whilst discharged, continued to receive lodgings, food and clothes from the asylum.

Turning to Sullivan, Embling noted carefully the features of an incident involving a female patient by the name of Hastings. It appears that Sullivan, rather than submit to a coroner's inquest at the gaol, arranged for her transport to the asylum while she was moribund. Embling described in vivid terms her arrival at the asylum in a semi-clothed state upon an open dray, with, as a companion, a noisy, singing lunatic. In spite of every effort, the woman died after forty-eight hours. The granting of medicinal brandy to the unfortunate woman merely resulted in a degree of intoxication for the two attendants. Embling pressed for a coroner's inquest. Watson immediately retired to the Colonial Surgeon, to inform him of this risk. Sullivan found officially that an inquest was unnecessary, and the woman was buried in the asylum paddock.

Sullivan had power to certify patients, for which he received a payment of one guinea. This, Embling pointed out, could, and he believed did, lead to abuses.

On April 17, 1852, Embling wrote again to Sullivan, asking for a definition of his duties. After a lapse of a few days, he received a note from Mr. Smith, the visiting Justice, informing him of his intention to visit the asylum the following day, and raise with him certain matters covered by correspondence between Embling, Watson and Sullivan. True to his promise, Smith arrived the following day, and Embling found to his surprise that he was to be the subject of a disciplinary board consisting of Sullivan, Watson and Mr. Smith. He learnt that this had resulted from a written complaint from Watson accusing him of being "too heroic to be a medical officer". Embling attended the board and appears to have given a good account of himself. In spite of numerous inquiries, he was unable to determine the decision of this board. Fourteen days later, he was summoned to attend a further board, this time consisting of Watson, Sullivan, Smith, Fenwick and the surgeon and coroner, Mr. Campbell, when he was accused of "neglect of duty" and "cruelty to patients". The former charge appears to have been a recapitulation of the previous board proceedings, while the latter related to an incident during which he had placed handcuffs upon a disturbed patient named M'Allister. This patient was subject to recurrent maniacal episodes, and had been in almost constant seclusion for a period of six months. Embling's records stated that at the time of the incident the patient was in a disturbed aggressive state, and that under these circumstances he was obliged to overcome his normal reluctance to use manacles. One gathers that Embling rather confounded his opponents by quoting freely from copious notes he had made in the case record. Their confusion changed to embarrassment when he indicated a complete lack of clinical notes over the period of six months during which the patient was in seclusion.

After some time had elapsed, Embling learnt that he had been acquitted by the second board. Embling's attitude to this board can be gained from a letter he wrote to *The Argus* on July 18, 1853, almost six months after he had left the asylum:

> I had won an honourable acquittal from my judges; my integrity—my only shield against this disgraceful proceeding—had beaten espionage, private arrangements, and private schemes; and I could not at once, with any show of decency, be either "suspended" or

"dismissed". Time was needed to have these "trials" forgotten; and my accusers, they remained in high esteem with the government, intact, as officers of the time. Such was the result. This, however, I did not permit to interfere with my position. I laboured still and laboured hard to be of use, if I might foreseeing clearly that we were running dead upon a more just and a necessary enquiry by the legislative body. I saw clearly that it would come. I could not remedy the monstrous abuses of the asylum, and if I would not withdraw and leave the Golgotha as it was, I saw clearly that it was intended to prevent any enquiry by getting rid of me. But it appeared right to me that I should make one more effort to get the Governor to interpose. I mentioned my position to a valued friend in Melbourne, and also to a leading member of the Government. His Excellency was thus made acquainted with much that was occurring, irrespective of his connection with my "trials". They took place by his orders. Dr. Murphy, now President of the Board of Roads, also was told of it, wished to see me. I saw him and gave him an ample and full narrative of this "chamber of horrors".

On June 15, as the result of these approaches, Embling received a list of general orders. Ambiguous in character, they constituted him an assistant to the superintendent and the Colonial Surgeon, ordering him to carry out any duties that these two gentlemen should determine. This did not appeal one bit to Embling, and led him to approach Mr. Johnston, the originator of the motion which made possible Embling's appointment to the asylum. After hearing a description of the recent happenings at the asylum, Johnston promised to move for the appointment of a select committee of inquiry into the affairs of the asylum. On July 2, 1852, Johnston moved for such an inquiry; his proposal was accepted by the House, and Mr. Poulman (Attorney-General), Dr. Thompson, Mr. Westgarth, Mr. Fawkner, Mr. Rutledge and the mover were elected to the committee.

The committee heard evidence during a five months' inquiry of 21 sittings. It made known its findings on December 16, 1852, setting forth its views on a whole host of issues. It described a picture of conscientious demoralization of staff, and apathy towards their vices, of incredible persecution of Embling, and, more particularly, of unbelievable cruelty to patients. Standing above all these issues was the repeated admission that the situation had arisen from a lack of decision upon the part of the government, as to whether the administration should have been medical or lay.

During the very first sitting of the committee, Embling set forth his views very clearly:

Item 334.

Q.: The moral and medical treatments were, I believe, separated?

A.: Yes.

Item 335.

Q.: Had you not the moral treatment of the patients?

A.: No. Not until these rules were issued, prior to that the superintendent considered that to be his business.

Item 336.

Q.: And did the Colonial Surgeon allow this?

A.: It was he who told me. On one occasion when I had given an order respecting a patient, the Colonial Surgeon said that it was not my business to do so. I asked him, how so, and he replied, "you are the medical officer of the institution, and Mr. Watson is the moral one, and you must not interfere with his part".

Some idea of what Embling meant by the term "moral" may be gained from the following item:

Item 338.

Q.: And Mrs. Harding's case?

A.: Is a purely moral one, in which the moral perceptions are to be acted upon. She can be powerfully influenced by religion, and I think that if she were properly talked to and treated, she would be brought to herself again.

Perhaps I may be excused for observing that twentieth century psychiatry would not share Embling's faith in psychotherapy as a method of removing delusional thinking.

Later in the inquiry Embling was asked if in his opinion the superintendent should be a medical man.

> It may perhaps seem out of place for me to give an opinion on such a subject, considering how I am situated here, but as I am asked the question, I will answer, that unless the medical officer is also the superintendent there will be no guarantee for the proper treatment of the patients.

As has previously been stated, difficulties arising from concepts of moral and medical treatment of the insane did not lead to an isolated incident restricted to Victoria. In fact, during the very time of the Victorian inquiry, a similar struggle was resolved at Tarban Creek Asylum (New South Wales) in favour of medical administration. The ideological aspects of the New South Wales precedent was acknowledged in the following:

Item 550.

Q.: I believe that is the course now adopted at Tarban Creek, since the enquiry into the state of the institution.

A.: It is, and is also the case in all well managed institutions of the kind, at home and abroad. Speaking of Tarban Creek reminds me that when I found that nothing could be done, and that the suggestions I offered were not complied with, I told the Colonial Surgeon that if he did not take care he would have a Tarban Creek over again. His reply to this was that he did not care for Tarban Creek.

Watson was equally sure of his position:

Item 1304.

Q.: Do you consider yourself the superior officer of the Resident Surgeon?

A.: Yes—certainly I do.

Possibly because he was troubled by professional ties with Embling, Sullivan was much more ambivalent in his views. He finally admitted, after lengthy examination, that dual administration would prove to be impossible, as expressed in his quaint style:

> I am prepared to state that no set of rules that even the host of lawyers in Victoria could make, would keep two officers similarly circumstanced in an institution like this from coming into collision.

While the committee was sitting, there were a number of changes at the asylum. Shortly after the committee started, Embling was issued with a pass key and a set of rules. Whilst these rules were ambiguous, and the same problems existed in regard to Watson and Sullivan, they did give him a small degree of authority. Certain personnel were transferred to other posts, and it was widely believed this was done to prevent their appearance before the committee.

By October, the most important witnesses had been examined by the committee, and Press and public were fast becoming aware of mismanagement at the asylum. Sullivan, and more so Watson, presented poor pictures of themselves during the proceedings, and while evasive and amnesic, were frequently provoked into embarrassing admissions.

The Argus of October 7, 1852, announced the next sensational development in this case:

> The Lunatic Asylum. The government has adopted the very singular course, considering that a Select Committee of the Legislative Council is still sitting on the subject, of dismissing both Dr. Embling, the medical officer, and Mr. Watson, the Superintendent of this establishment. Dr. Bowie is appointed to take entire charge of it.

At this stage, Latrobe and the government were having difficulties in more quarters than the asylum. They were, no doubt, aware of the difficulties that were soon to face them as the result of public wrath and demand for electoral reform. Under these circumstances, criticism of the government could lead to major embarrassment. Possibly for this reason, Latrobe deemed it politic to dispense with

the discredited Watson and the difficult Embling, and accept the principle of medical administration by the appointment of Robert Bowie to the superintendency of the asylum. It must surely be admitted that this move was an effective face-saving tactic in the best tradition of politics.

During a vote of no confidence in the government, debated in November, 1852, the Attorney-General rationalized the incident in the following terms: that because both officers appeared to be implicated by the inquiry, the government considered it advisable to suspend the two officers, upon the clear understanding that one or the other would be reappointed if exonerated by the committee. However, he admitted as an afterthought, the institution could not stand to suffer from these suspensions, therefore it had been necessary to appoint Dr. Bowie immediately. The hollowness of this promise may be gauged by the preferential treatment granted to one man over the other. Watson, although suspended in October, had his pay continued until November and his rations until January, 1853, and was given accommodation until he took up his new appointment at the Burn Bank Bench in March, 1853. For Embling it was quite a different matter. Upon suspension, he was asked to leave immediately, and had a fortnight's salary deducted from his pay.

This treatment is to be compared with the findings of the Select Committee of Enquiry.

> Of Mr. Watson, the late superintendent of the asylum, we would willingly say but little, since his connection with the Institution has ceased. . . . But his proceedings . . . call for remark from your committee. Improving on the example set him by the Colonial Surgeon, his constant opposition to the Resident Surgeon, led to scenes of the most unbecoming character . . . and tended to bring that gentleman into contempt.

Nor did his other sins escape notice. They remarked upon the conversion of Yarra Bend into "an extensive poultry farm, to such an extent that the poultry merchants, in time of scarcity, looked to the Yarra Bend Asylum to supply the market and found it worth their while to go out to the institution to make their purchases". Furthermore, the committee reported: "That the provisions of the lunatics but too often went to feed these fowls and pigs your committee can have little doubt, whilst there is very distinct evidence that the rations of the government horse suffered for the same purpose." They concluded: "The public service is not benefited by having such an officer in its employment."

Sullivan received a great deal of attention from the committee; his undignified language to Embling, his unseemly liaison with Hever, his interference with cases and the handing over of moral treatment to Watson were all condemned in the strongest terms possible. Both Watson and Sullivan were implicated in the matter of the use of male attendants in the female wards. In addition to carrying water and assisting in the bathing of female patients, "they have also been employed to put the straight jacket upon refractory patients, when scenes of the most disgusting character, invariably occurred"—the impropriety being still further enhanced by the obscenity of the lunatic attendant Donovan, previously referred to, who, it appears, rendered the proceedings as immoral as possible. The committee felt that Donovan deserved a specific appraisal, and found him to be:

> . . . shown by the witnesses to be a man of the foulest conversation, of the most disgusting habits and of the most libidinous propensities, he is rendered still more unfitted for so responsible a charge by his habits of intemperance, and his reckless conduct when in a state or intoxication, giving liquor to his fellow patients, and creating confusion and excitement where good order and peace are so much required.

Of Embling, the committee stated:

> The voluminous evidence taken before your committee shows not one settle of a charge as being even as much as hinted at against Dr. Embling, and his whole offence so far as your committee can perceive has been that he possessed too much conscientiousness, and that he wished to make himself useful to the public.

Upon completion of the inquiry, there can be little doubt that Embling felt quite secure in his exoneration by the committee and his impending reappointment. However, in March, 1853, an extraordinary series of letters travelled between Embling and the then Colonial Secretary, Lonsdale; on the one hand were requests for Embling to attend a further departmental board of inquiry, and on the other hand, replies from Embling stating his unwillingness to attend, on the grounds that he had been already exonerated by a higher body. No doubt the government was eager to have Embling before a private board in order to discredit him, for undoubtedly his actions had created a great deal of feeling against Latrobe and the government. Embling was sufficient a politician and realist to detect the trap and continued to decline the invitation. He summed up his views of the Yarra Bend incident in the concluding sentence of his last and final letter to Lonsdale:

> Now free institutions are our own and it will be the crime of the people if such a "hell" is permitted to exist in Victoria again. With the colony I leave it; my portion of public duty is accomplished.

In a sense, these were the final words of the moral versus medical controversy in the colony, and since this time the principle of medical administration of psychiatric hospitals has continued to operate. One must realize that whilst Embling was unsuccessful in his bid for personal status, he was responsible for establishing a most important principle. Nor was his public duty accomplished, for his history reveals that during a long and eventful life he proved to be a formidable and capable opponent of many governments.

Acknowledgements.

I am indebted to Dr. C. R. D. Brothers, Deputy Chairman, Victorian Mental Hygiene Authority, for his kindly advice and guidance, and for his infective enthusiasm, which, in a large measure, is responsible for this article. I wish also to record that Thomas Embling has been blessed with kind and gracious descendants, and owing to their enthusiastic and urgent efforts, a great deal of invaluable material has been made available.

References.

BOSTOCK, J. (1951), "The Dawn of Australian Psychiatry" (M.D. Thesis, Queensland University, 1951).

"GARRYOWEN" (EDMUND FINN) (1888), "The Chronicles of Early Melbourne", 1835 to 1852, Ferguson and Mitchell, Melbourne.

JONES, K. (1955), "Lunacy, Law and Conscience—1744-1845", Routledge and Kegan Paul, London.

The Argus (1853), original correspondence, July 14, 18 and 20, 1853.

"Votes and Proceedings of the Legislative Council", Vol. 2, 1852-53; Select Committee of the Legislative Council on the Yarra Bend Lunatic Asylum. Findings and Minutes.

THE INTERVAL MANAGEMENT OF ASTHMA.[1]

By DAVID ROSS,
Sydney.

ASTHMA is of tremendous importance to the patient in more ways than one. No one will ever really understand this malady until such time as he appreciates the full significance of this simple statement. Without understanding, our efforts to help those who suffer from this disease are hardly likely to satisfy either them or us.

Let us then demonstrate to the patient at the first interview that we are, in fact, impressed with the importance of his invalidity. There is no better way of doing this than by taking a careful history of the illness.

At this stage nothing is to be gained by, and indeed harm may follow, any attempt to discuss the emotional life of the patient. Let us keep to the story of asthma. We can learn much that will be of value in planning his future management.

We want to know first, because it is of prime importance in prognosis, whether or not he is completely free from

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on October 27, 1956, at Wollongong.

symptoms between attacks, or whether he is more or less in continuous mild or severe asthma; whether there is any family history of allergy, the age of onset, and the frequency, duration and severity of attacks. Whether the attacks are seasonal or not, the precipitating factors and the methods of obtaining relief are all important. Add to this a general medical history, and the story is complete.

The taking of the history is followed by a physical examination, which should be thorough, not only from the physician's, but also from the patient's point of view.

The taking of skiagrams of the chest and nasal accessory sinuses is an important part of the examination and should not be omitted. Examination of the patient during an actual attack will provide valuable additional information.

The way is now clear for investigation from an allergic point of view by means of skin sensitivity tests. Here let me say that I am surprised that more practitioners do not carry out their own investigation. Taken in conjunction with the history and physical examination, skin sensitivity tests are of far more value than when they remain a thing apart. Indeed, these tests when not considered with the clinical history are relatively valueless. It is well known that skin sensitivity does not run parallel with clinical significance.

Not infrequently we detect positive skin reactions which prove to be of no clinical significance, and again we find an absence of skin reactions to substances which the patient knows full well are apt to provoke attacks. In this regard the patient should be warned against taking antihistamine drugs prior to the test. Skin sensitivity tests should not be performed just after an attack or in the presence of a raised temperature. Nevertheless, despite these difficulties, every asthmatic patient aged over six months should have the opportunity of such allergic investigation.

At this stage the patient usually inquires after his prognosis. Foolish indeed would be the doctor who promised freedom from asthma; but at least we are now in a position to make a diagnosis and to evaluate the allergic factor. Let there be no doubt about it, the principal factor in the development of asthma is the allergic factor. As a result of a survey I conducted in the clinic at the Royal Prince Alfred Hospital I concluded that the allergic factor was largely responsible for 70% of cases.

The offending allergen or allergens may be exogenous or endogenous. On occasions we are confronted by individuals who manifest an allergic reaction to both.

Exogenous allergens are the pollens, animal emanations, drugs, dusts and food. As a general rule asthma due to these substances starts in early childhood. There is usually a strong family history of allergy. These are the patients who, as a rule, have complete freedom between attacks, and provided they can avoid the offending allergen or undergo a course of so-called desensitization, the prognosis is very good.

Treatment by "desensitization" should continue for not less than two years. Weekly injections with gradual increase in dosage should be given for three months, and then maintenance doses at less frequent intervals for two years. I think it is a bad practice to leave the injections to a nurse. It would not be unreasonable if the patient was to interpret this as a loss of interest by the doctor. Let us never forget the tremendous importance of asthma to the patient.

Asthma stemming from endogenous or bacterial allergy poses a much more difficult problem. This may start in childhood, or the onset may be delayed until middle life. There is usually a history of repeated upper respiratory tract infections with associated sinusitis. Cough is always a prominent feature, and the sputum tends to be purulent and copious. Attacks of bronchitis with or without associated asthma are evident, especially in the winter months. Here the prognosis is not good. The intervals between attacks become progressively shorter and not infrequently *status asthmaticus* supervenes. Chronic bronchitis with pulmonary fibrosis and emphysema are likely to develop as the unfortunate sufferer progresses towards total invalidism.

However, if we can be satisfied by a complete preliminary examination that we are still dealing with the early stages of this disease, and provided that we institute correct treatment, the outlook becomes much brighter. Here is sure to be raised the vexed question about the place of surgery in the treatment of infection of the upper part of the respiratory tract.

I believe that grossly infected tonsils together with hypertrophied adenoids should be removed. So, too, should nasal polypi if they are causing obstruction. Frank pus in the sinuses must be cleared away. In this regard these people are no different from other members of the community. However, we should remember that these people are suffering from an allergic reaction in both the upper and lower parts of the respiratory tract, and apart from the conditions mentioned surgery has nothing to offer in the early cases at all events.

I am now completely satisfied that by far the best treatment is prolonged residence in the western districts of the State beyond the Blue Mountains. Children especially do very well. They lose their asthma and are no longer prone to upper respiratory tract infections. I have seen their infected sinuses become radiologically clear. Nothing is more satisfying in the practice of medicine than watching these children grow from miserable invalids into robust, healthy individuals.

When this move is impracticable, then a prolonged course of vaccine therapy is indicated. I use Parke, Davis and Company's "Catarrhalis Immunogen" in minimal dosage. There is no advantage in the use of autogenous vaccines. The optimum dosage is quite small and must never be increased. Injections are given weekly for three months, and then at less frequent intervals for two years. It is important not to give large doses. It is easy to push these people into chronic asthma by injudiciously increasing the size of the injections.

It is vitally important to recognize and treat this group in the early stages; otherwise irreversible changes take place in the respiratory tract, leading to more or less continuous asthma. This renders the patient a misery to himself and a burden to those around him.

It must not be thought that the two groups I have described are necessarily divided into two water-tight compartments. There are a number of asthmatics who react to both exogenous and endogenous allergens. Their treatment is difficult, but follows the lines I have already indicated.

I have described the allergic treatment of bronchial asthma. I believe it is the most important part of the treatment and should be available to every sufferer from this disease. But in itself it is not complete, and certainly does not relieve every asthma patient. There are many factors involved in the production of an attack of asthma, and therapy should be directed against each of them.

It is notorious in the history of medicine that those diseases which lack a specific cure have a multitude of so-called remedies readily available. Some of these are useful, but many more are quite useless and indeed positively harmful. Asthma is no exception to this sorry state of affairs. To merit our consideration, the proposed treatment should have some influence in lessening the number or severity of the attacks. First of all are the measures designed to improve the general health and well-being of the patient. Adequate diet, especially for those with food restriction, is important.

Breathing exercises are of major importance. No asthmatic is properly treated unless he has been instructed by a competent physiotherapist in breathing exercises. I would commend to you the various exercises in use at the Brompton Chest Hospital in London. A well-trained child can often abort an attack of asthma merely by going into his exercises.

The avoidance of extreme changes of temperature, especially cold winds, is of importance.

Drugs are of major importance in relieving the actual attack, but are of little value in the interval management. I never prescribe inhalant sprays or provide the patient with a hypodermic needle for the administration of adrenaline—the risk of becoming adrenaline-fast is too great. Quite a number of patients use a spray containing "Neo-epinine". When a major attack supervenes, they use the spray almost continuously for some hours. When this fails they seek medical advice. On two occasions to my knowledge the doctor has injected adrenaline and the patient has died. The combination of "Neo-epinine" and adrenaline may be lethal; this is recorded in "Martindale". Never give adrenaline until due inquiry has been made about previous treatment.

Potassium iodide is of real value in preventing the accumulation of the thick, tenacious sputum which is such a feature of asthma. It may be given as a routine measure for long periods. It is this accumulation of thick sputum in the bronchi which causes recurrent areas of collapse in some children. Not infrequently they are in error regarded as suffering from pneumonia.

Sedatives have a place in the interval management of asthma, but are a poor substitute for psychotherapy.

Anti-histamines have no place in the treatment of asthma. Indeed, I have a suspicion that, although they are remarkably efficacious in hay-fever, one is apt to develop symptoms of asthma as the hay-fever subsides.

Cortisone, of course, is a life-saver in *status asthmaticus*; but in the long-term management its use should be reserved for those unfortunate individuals who are in more or less continuous asthma as a result of bacterial allergy.

Autohæmotherapy has had its day, and has passed into the discard without lament.

Reflex stimulation of the vagus nerve from a disturbed gastro-intestinal tract may precipitate an attack of asthma. It is common knowledge that asthmatics have a tendency towards gastric hypochlorhydria. Dilute hydrochloric acid may be given with advantage. Heavy and indigestible meals should be avoided, especially at night.

But it is not only the gastro-intestinal tract which is able to stimulate the vagus. I am certain that a disturbed psyche may so stimulate the vagus as to produce spasm of the bronchial musculature together with œdema of the bronchial mucosa and outpouring of tenacious sputum—in other words, a full-blown attack of asthma.

The approach to the psychogenic factor is not easy. "It's your nerves", says the doctor, somewhat impatiently, and in a faintly accusatory tone, when the allergic investigation has proved futile. Maybe he prescribes phenobarbitone or perhaps suggests a consultation with a psychiatrist—a move which more often than not does nothing to endear him to his patient.

It is now my purpose to try to give you some insight into the emotional factors in asthma in order to encourage you to give your own psychotherapy.

In the first place, it is vital to remember that asthma is important to the patient. It means something to him. He is very much on the defensive. We aim not to take a psychiatric history, but rather to let the patient give one. Once again we talk about his asthma. Discussion of possible hereditary influences leads insensibly to a more personal discussion of parents and siblings. Endeavour to relate the onset of asthma with the life situation existing at that time. Let the patient do most of the talking, and as a rule the whole story of his emotional life unfolds.

The more I see of psychogenic asthma, the more I am convinced that we are dealing with two classes of individuals. On the one hand we have the somewhat aggressive person whose disturbed emotional state is due to exogenous factors, and on the other hand is the subject with a more or less dependent personality whose tension is largely endogenous, stemming from an inborn defect in personality structure. Both types are encountered in childhood; but the adult sufferer nearly always belongs to the dependent group. As a rule it is not very difficult to determine that both groups derive their emotional tension from repressed resentment.

The aggressive child who is subject to over-protective and anxious parents develops a sense of resentment when he feels that he is surrounded by intolerable restrictions. Should this resentment be repressed, he may well develop a neurosis, or exteriorize his conflict as frank asthma. This is the child who tends to grow out of asthma as he becomes older and more self-assertive. As a rule he will do well if allowed to attend a boarding school.

The dependent type pose a much more difficult problem. These children have established a very close relationship with their mother and seem to resent any threat of separation. In their minds the advent of a sibling constitutes a very real threat. It would appear that in these children asthma is a motivated illness. They have something to gain from their invalidity. In the first instance it tends to bring them closer to their mother, although later they are apt to develop asthma whenever the life situation becomes difficult.

This rather unhealthy mother-child relationship must be dissolved; but nothing is to be gained by asking the mother to break the alliance and reject her child. His asthma will go from bad to worse. Rather an attempt should be made to encourage the child to become more independent by offering him an alternative and more attractive way of life. The mother should be alert for any signs of independent activity on the part of the child, and be ever ready to encourage him in his efforts. It is important that the child and not the mother should sever the tie which binds them together. To send this child, against his will, to boarding school could be disastrous.

Psychotherapy is often rewarding in this dependent group; but it seems to me that in the adult sufferer from psychogenic asthma, I can still recognize the same dependent childish traits in the personality structure. Always there is resentment close to the surface. These patients seem to think that life has not been fair to them. No doubt the life situation oftentimes is difficult; but it is rare to find them taking any positive action to remedy it. It is as though each attack of asthma represents a somewhat plaintive cry for help.

No doubt there are other conflicts which determine the onset of psychogenic asthma; but in my own experience hostility in repressed aggressives and resentment towards life in their weaker brethren have been outstanding. I must admit that I feel happier dealing with the first group.

We must aim at giving the patient insight into the origin of his symptoms, and make some attempts to get him to express his resentment through healthier channels. Superficial psychotherapy such as this is well within the ambit of the average physician.

Every patient suffering from asthma must be regarded as presenting a separate problem. In the majority of patients allergic factors are predominant without any apparent disturbance of the psyche; in others the reverse obtains; and again in others, both factors appear to be of significance.

The successful management of asthma depends upon our appreciation of this problem and upon the efforts we make to solve it.

GASTRO-INTESTINAL HÆMORRHAGE.

By A. W. Morrow,
The Royal Prince Alfred Hospital, Sydney.

HÆMORRHAGE from the upper part of the alimentary canal is an everyday emergency demanding a nicety of judgement in its management.

Dr. R. S. Packard has recently reviewed, and will shortly publish, our experience of some 600 such emergencies seen in the quinquennium 1950 to 1955, and I am grateful to him for making his analysis available in preparing this communication.

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on October 27, 1956, at Wollongong.

There are manifold causes of bleeding, and rare causes must always be kept in mind, but for practical purposes there are the following four principal groups: (*a*) proved or probable peptic ulcer and acute multiple erosions; (*b*) hiatus hernia; (*c*) neoplasia of the stomach; (*d*) portal hypertension.

Peptic Ulcer Group.

The peptic ulcer group includes the proved or probable chronic gastric ulcers, chronic duodenal ulcers, the acute lesions and the post-operative lesions (gastro-enterostomy or partial gastrectomy). It comprised 75% of these emergencies; in other words, three out of every four patients admitted to the hospital with hæmorrhage were found to be suffering from an ulcer.

Chronic duodenal ulceration is the dominant lesion, and acute lesions occur more frequently than chronic gastric ulcer.

The acute lesions comprise some 20% of the total group, but the diagnosis has been presumptive on many occasions. It has included those cases in which a radiological examination made within two or three weeks of the hæmorrhage has failed to reveal an ulcer when the clinical history was strongly suggestive, and those in which the lesions have been recognized gastroscopically or at laparotomy. Erosive gastritis due to aspirin or "Butazolidin" is here included. According to Avery Jones (1956), the newer soluble aspirin compounds do not cause this damage.

The acute lesions may at times cause severe and repeated hæmorrhage; they were responsible for four deaths in this series. We have had minimal experience with the adrenaline-stypven technique of W. J. M. Brandon (1956) for the control of hæmorrhage; but this may be the subgroup in which it could be employed with advantage.

The clinical history is usually one of short recurrent bouts of dyspepsia, perhaps for several years. It is usually of moderate severity for some three or four days before hæmorrhage occurs. One patient with multiple acute lesions of the duodenum who came to operation had a history of severe recurrent dyspepsia for many years.

In the proven chronic peptic ulcers, duodenal ulceration occurred three times as commonly as gastric ulcer, and as might be expected, the ratio of males to females was 4:1 in duodenal ulcer or 2:1 in gastric ulcer. In the acute lesions the sex distribution was equivalent. Concomitant ulceration occurred in 3% of cases; but with more diligent searching by the radiologist the figure might be found to be much higher.

Hiatus Hernia.

Hiatus hernia is usually a cause for occult bleeding, occurring as a rule from the associated reflux œsophagitis or from acute erosions within the herniated portion of the stomach. In 10 cases only in this group of 600 was it considered to be the explanation of the bleeding, and in one only was it massive, from an ulcer within the herniated sac.

Carcinoma and Other Neoplasms of the Stomach.

Carcinoma and other gastric neoplasms comprised 4% of our group. Hæmorrhage is rarely exsanguinating, and when severe hæmorrhage does occur the lesion will probably prove to be a simple rather than a malignant ulcer.

Portal Hypertension.

There were some 46 patients suffering from cirrhosis or extrahepatic portal hypertension, an incidence of 7·5% in the whole group. It must be remembered as a cause of hæmorrhage; but at the same time the presence of varices does not mean that they are the source of the bleeding. It is recognized that peptic ulceration occurs within this group more frequently than in the general population, and in our experience 33% of these patients were bleeding from chronic peptic ulcers and not from varices. Œsophageal tamponade with the Sengstaken bag will usually control œsophageal bleeding. If the gastric aspirate continues to be blood-stained, this fact suggests peptic ulceration or perhaps gastric varices as the causal factor.

An unusual cause of bleeding unrelated to varices may be mentioned here. It is known as the Mallory-Weiss syndrome (Decker *et alii*, 1953) and is said to be due to rupture of the mucosa at the cardio-œsophageal orifice induced by forceful vomiting.

The Symptomless Group.

The symptomless group of patients demands consideration. It is amazing how frequently hæmatemesis or melæna has been the first presenting symptom or sign of organic disease of the alimentary canal. In this series approximately 10% of proven chronic ulcers and 33% of the acute lesions presented with bleeding as the first symptoms. Looked at from the other angle, 66% of patients admitted to hospital with alimentary bleeding as the only symptom were suffering from an acute or chronic ulcer.

Mortality Rate.

The overall mortality rate from all causes was 11%; this does not differ greatly from similar overseas series. Detailed analysis of the ulcer group is of paramount interest, because it is in this group that management may vary widely.

There is a sudden sharp rise after the age of fifty years, increasing from 2·5% to 10% in the next ten years with a rate of 15% in the eighth decade. The mortality rate is much greater with gastric ulcer than with duodenal ulcer, and is minimal in the acute lesions. The large penetrating gastric ulcer carries a very high death rate. Recurrent bleeding after admission to hospital is always serious, and in our experience recurrent bleeding in the patient aged over fifty years with a chronic ulcer has had a mortality rate of over 30%.

Management.

Bed rest, preferably in hospital, is essential. Sodium phenobarbitone (three grains) given by intramuscular injection is preferred to morphine as a sedative because of the risk of vomiting, feeding with citrated milk is encouraged from the beginning, as also is the administration of regular doses of alkali such as one of the aluminium gels. If the bowels are not open on the second day, an enema is given, as retained blood in the alimentary canal is injurious, particularly if the patient is a cirrhotic.

There is a school of thought which states that blood transfusion is not necessary. We do not agree with this statement. Shock is a definite indication; but in the absence of shock, if the pulse rate remains above 110 per minute despite rest and sedation, or if the systolic blood pressure falls below 95 millimetres of mercury, transfusion is indicated. If by direct observation of the vomitus or the stool it is apparent that the patient has lost more than 600 cubic centimetres of blood, transfusion is indicated. The blood count in the early stages is not helpful; but sometimes bleeding has proceeded slowly before the dramatic event occurs. Under such circumstances a count below 3,000,000 red cells per cubic millimetre or nine grammes of hæmoglobin *per centum* calls for transfusion.

When the patient is in the supine position, because of circulatory compensating mechanisms pending shock is difficult to determine. An easy bedside manœuvre is to raise the head and the upper part of the thorax on pillows to an angle of 45°. If shock is pending, the pulse rate increases more than 10 beats per second and the systolic blood pressure falls at least 15 millimetres of mercury. This is an indication for transfusion.

Over-transfusion must be avoided. In this series we have been guilty of it. A controlled anæmia of 12 grammes of hæmoglobin *per centum* seems ideal, particularly in cirrhotics, and does not lead to overloading of the circulation.

Packard has drawn attention to the state of dehydration which frequently exists in these patients. It must be remembered that blood does not adequately correct dehydration. Patients are therefore given fluids by mouth from the beginning; but should vomiting prevent this, the intravenous administration of one-fifth normal saline and glucose is substituted.

Surgical Intervention.

Just as one school states that transfusion is not indicated, so another and larger school opposes surgical intervention. On review of the 30 deaths in the ulcer group, it is thought that probably 14 patients could have been saved by surgical or earlier surgical intervention. Of the 59 submitted to surgery, 13 died; but only three of these deaths may be regarded as surgical deaths — the others were due to inadequate resuscitation, intercurrent disease or too long delay before surgical intervention.

Continuing or recurrent bleeding after admission to hospital, particularly in a patient aged over forty-five years, is a strong indication for operation, especially if he has a proven ulcer. Age is no bar to the modern surgeon, and procrastination because of age is unforgivable.

When the cause of the bleeding is known the decision is comparatively easy, but it is much more difficult when the cause is undetermined. In such patients aged under forty-five years every effort is made to control their condition conservatively; but if they are over forty-five years of age and there has been recurrent or continuing bleeding during a period of forty-eight hours, laparotomy is indicated.

It has been our experience that exsanguinating hæmorrhage is usually associated with a local lesion which is amenable to operation; but when an obvious lesion is not detected after both the stomach and duodenum have been opened, we do not favour a blind gastrectomy as recommended by some authorities.

References.

BRANDON, W. J. M. (1956), "Hæmatemesis Controlled by Adrenaline and Stypven", *Lancet*, 1: 360.

DECKER, J. P., ZAMCHECK, N., and MALLORY, C. K. (1953), "Mallory-Weiss Syndrome", *New England J. Med.*, 249: 957.

JONES, F. AVERY (1956), "Hæmatemesis and Melæna", *Gastroenterology*, 30.2.166.

RADIOTHERAPY IN BENIGN CONDITIONS.[1]

By B. S. HANSON,
Adelaide.

AT the end of last century there was working with the late Dr. Todd a man whom many of us will remember with affection at a later time as the tactful despot of the radiographic department of the Adelaide Hospital. He is, of course, Mr. C. H. Marshall, certainly the doyen of Australian radiographers, and not only one of the oldest but still one of the best radiographers in the world. With Dr. Todd and his brother-in-law, Professor William Bragg, Mr. Marshall had some practical experience of home-made X-ray equipment, and in 1902 he went to Melbourne to buy the first commercially made X-ray apparatus to come to Adelaide, a six-inch coil of Watson and Sons, London. It is strange by modern standards that he was able to bring this back in his compartment of the Melbourne-Adelaide express. At that time this express arrived at 10 a.m., and during the rest of the morning Mr. Marshall assembled his new plant, and in the afternoon of the same day he was able to make a two-and-a-half minute exposure of a shoulder girdle and show that the suspected dislocation was not present.

The Watson and Sons apparatus of those days was a temperamental machine, used for both diagnosis and treatment. The magnetic make-and-break was worked from the core of the coil, and Mr. Marshall recalls that the operator needed both agility and a strong constitution to withstand the electric shocks often received when starting the interruptor by spinning it with the hand. Diagnosis of the state of the tube, and the decision when to "rest" it, was an art acquired by practice; several tubes were thus required, and they were constantly being removed and replaced. For treatment a filter of sole leather was placed between the tube and the patient, and in the absence of any measuring instrument, biological response in the form of skin erythema determined dosage levels. Even when in 1930 I began to work with apparatus in the X-ray department of the Adelaide Hospital our dosage was most ineffectually checked by the occasional exposure of a Sabouraud-Noiré pastille.

Technically we have advanced far since then, and with our machines of stabilized output, our ionization measuring instruments and an efficient physicist service it is difficult to imagine how good work was ever done under the primitive early conditions. It is therefore something of a paradox that in this mechanical age the senior medical students, and even the recent medical graduates, know less about radiotherapy and the indications for it than do general medical practitioners of longer standing. As radiotherapy is an essential part of modern medical care, this lack of knowledge among the younger men is a fault, and in my opinion a fault in undergraduate training, which applies to the University of Adelaide as it does to many universities throughout the world. With the very proper intention of limiting undergraduate training to a wide general knowledge, the Faculty has instructed that, with other special subjects, radiotherapy should be taught only in the general wards. The great majority of patients attending for X-ray therapy do so as out-patients, and thus the student tends to see only those with the more advanced and hopeless types of cancer having this treatment, and so he gets an unbalanced view of the scope of this specialty. His knowledge of the scope of radiotherapy does not really develop until he enters private practice and is advised by a more experienced colleague to try this treatment for diseases which he had not realized were affected favourably by radiation therapy.

The more serious the disease, the greater is the gratification at successful conclusion of treatment, and thus the radiotherapist looks with more interest on his cancer patients who have returned to health by his efforts than he does on people similarly relieved of benign conditions. But the treatment of non-malignant conditions, even if the dermatoses are excluded, forms a not unimportant part of his day's work, and they appear less often than cancers in the list of failures. Information about radiation treatment of non-malignant conditions is scattered through various scientific journals, for the text-books of radiotherapy published in Great Britain in recent years deal with non-malignant disease to a very limited degree. Thus the experience of one radiotherapist in this respect may be worth recording, and is my reason for accepting the invitation to speak on what is otherwise a somewhat uninteresting subject. My remarks will be confined to diseases which have come under my personal care, or which I have actually seen under the care of other radiotherapists. The diseases are grouped in a loose way, at times under the heading of a tissue or an anatomical region, at others under a group of morbid conditions. The list is necessarily far from complete.

The Skin.

It is not proposed to discuss the dermatoses, for many of which X-ray treatment is very valuable. By far the greatest proportion of these conditions is now in the hands of the dermatologist, in which way, I am afraid, diagnosis is achieved more precisely than it was when radiotherapists were responsible for the X-ray courses.

Perionychia.

Of infections mainly involving skin, perionychia is worth mentioning. The use of small doses of X rays over a period of some weeks, combined with care in avoidance of irritants and keeping the fingers dry, is often useful. I have no personal experience of relating the type of infection to the result of the treatment, but my impression is that the proportion of patients who recover from this disease is a little smaller than it was twenty years ago. This raises the question of a change in the common infecting organism.

[1] Read at a meeting of the South Australian Branch of the British Medical Association on May 31, 1956.

Molluscum Sebaceum.

Molluscum sebaceum is an infection recognized as such only during the past few years, but certainly responsible for many of my most satisfactorily and rapidly cured "squamous cell carcinomas" over the last quarter of a century. Twenty years ago I wrote that, contrary to general belief, the cure of squamous cell carcinoma of the skin was brought about by a smaller radiation dose than is required for cure of a basal-cell carcinoma; to a degree this is still true, but my earlier opinion would have been expressed with far less confidence had *molluscum sebaceum* then been recognized, and had all of these benign and radiosensitive tumours been taken out of the total upon which my statistical assessment was based. Now that its existence is known, *molluscum sebaceum* may be diagnosed clinically in a good proportion of cases. Developing quickly over a period of two or three weeks, it generally forms a hemispherical tumour with an umbilicated, ulcerated centre and an appearance suggesting the texture and almost the colour of a nearly ripe tomato. It may heal on one edge and extend on another, while the central ulceration tends to increase, a dried breaking-down keratin material being retained within it. There is often some tenderness. Others of these tumours look so like a squamous-cell carcinoma that only the short history suggests the need for biopsy, while even the histopathologist will often be in doubt about distinguishing between these two possibilities. *Molluscum sebaceum*, or keratoacanthoma, in my experience develops on exposed skin; but one of my patients showed an unusual distribution.

This patient had radionecrosis on the dorsum of his hand following X-ray treatment for what was believed to be a squamous-cell carcinoma, and Dr. J. R. Magarey agreed to repair the damage by excision and graft. Soon after the operation this man developed three tumours round the margin of the grafted area and a further two on the donor site on the anterior aspect of his thigh. All appeared due to the same cause, and biopsy of one showed *molluscum sebaceum*, while observation confirmed the diagnosis, as most of the tumours resolved spontaneously during the next six months.

It is said that all will resolve spontaneously, but some are unsightly and tender in the long period of waiting, and as they respond rather readily to moderate doses of X rays, it is my opinion that they are rightly treated in this way until a specific treatment is found for them. Some become a little more tender and painful during the reacting phase than do the common skin tumours, and they are more likely to leave a depressed scar afterwards.

Warts.

Simple warts must come under the heading of infections, and the vast majority of them are favourably influenced by X rays. At least until very recently it has been the custom for many radiotherapists to treat warts by a single application of radium or X rays. Obviously there are many successes with this technique, for otherwise it would be abandoned; but in my opinion it is incorrect. If the dose is large enough to cause disappearance of a high proportion of the warts, there is far too great a risk of radionecrosis (which may be accepted in a proportion of cancers, but should never occur after treatment of a benign condition), while a dose safe from the aspect of necrosis leaves too many of the warts unaffected. Using a single-dose technique, and at a level considerably less than the rather heroic doses used by some of my colleagues in the past, I have been the cause of necrosis in the sole of the foot in one case and probably on a great toe in another. Need I say that the frank necrosis was on the foot of a doctor's wife, who was put to great pain and inconvenience and required deep surgical excision and graft? Since 1947 I have refused to treat any wart unless I could use divided doses of a "soft", little-penetrating ray spread over two weeks, giving a total dose varying between 2750*r* and 3150*r* with the lesion closely screened by lead. There is no detectable reaction in plantar warts beyond a little swelling of the tumour, and reaction on the fingers is usually negligible with a few unexplained exceptions. The tenderness of a plantar wart may slightly increase during the second week of treatment and the week after this, but much more commonly the tenderness has gone after the first week of treatment and does not return, even though the wart looks exactly the same and is not shed as a thick flake of dried skin until some two months later. Contrary to the opinion of some surgeons who have been called upon to repair necrotic ulcers of the foot, I believe a properly planned course of X-ray therapy is probably the treatment of choice for plantar warts. The statistics of multiple-dose treatments of plantar warts in my private practice do not conform to the standards of the vital statistician in that not all my patients have been traced. There is, however, no objectionable selection, for the names of the patients have been taken from my records in chronological order between the years 1948 and 1954 inclusive. Table I shows the results in those whom it was possible to trace.

TABLE I.

Results of X-Ray Treatment of Plantar Warts.

Result.	Five Years and Over.	Four Years.	Three Years.	Two Years.	One Year.	Total.
Apparent cure ..	33	24	21	30	28	136 (90%)
Failure	4	6	2	1	2	15 (10%)

In Table II the failures are analysed.

TABLE II.

Analysis of Failures.

Result.	Number of Cases.
No improvement	2 (1 painless).
Improvement and later recurrence (usually within six months).	13 (previous operation in 3, 1 probably not true recurrence, necrosis in 1 after subsequent diathermy treatment).

The lesions may be defined, then, as plantar warts occurring on patients who have had multiple-dose X-ray treatment in my private practice from 1948 to 1954 and who are available on the telephone; thus, as this is a non-fatal disease, I believe the statistician would be satisfied. Among these warts there is only one instance of necrosis; this was a wart on the web between two toes which did not respond to X-ray therapy, quite possibly because the full planned dose was not given owing to technical difficulty in directing the X-ray beam, and which broke down after subsequent diathermy coagulation. I doubt very much whether the radiotherapy should carry the whole blame. Few patients indeed were not relieved at first, and of the unsatisfactory results most were due to recurrence in less than six months. One wart allegedly recurred after four years; but as I could see a tiny depression near it I believe this was a new wart near an old scar; it has, however, been included with the failures. The risk of necrosis rises steeply in young children, and although general anæsthesia is a psychological affront to be avoided when practicable, in my opinion anæsthesia and diathermy coagulation are preferable to X-ray treatment when multiple warts are present over growing bones of the hand. It is the recently formed warts of children which respond best to podophyllum, and the application of podophyllum resin (25%) in paraffin is worth a trial in such cases. It must be clearly understood that a second course of irradiation is never justified, and it is worthy of mention that warts which have recurred after inadequate operation, whether excision or diathermy, may show enhanced resistance to X rays. Of the 15 patients in the failure group, three had been previously treated surgically.

Herpes Zoster.

Herpes zoster and the neuralgic pain which often follows the acute infections are treated by some radiotherapists, who irradiate both the skin lesions and the central inflamed areas. In my hands this treatment has proved almost valueless.

Acanthoma and Melanoma.

There is no similarity between the verruca discussed above and the senile pigmented wart, which is of importance mainly because it may be confused with a melanoma. Even when pigmented a deep black, the acanthoma with its fissured surface has a fairly characteristic appearance; but as biopsy is frowned upon—in my opinion irrationally—undoubtedly a wrong diagnosis is made at times, and this probably accounts for most of the reports of radiosensitive melanoma. I have never treated a melanoma which has proved to be sensitive, but the acanthoma responds well.

Other Skin Conditions.

Among other skin conditions, mention may be made of several for which radiotherapy is demanded as a cosmetic measure. In my hands the treatment of keloid scars has been disappointing, although I believe that my colleagues in Adelaide have had more success. Treated at an early stage in their evolution some keloid scars lose their swollen appearance, and a few also become pale, but at the best they remain broad and obvious. Quite the best results are obtained by surgical excision and the application as soon as practicable afterwards of a moderate dose of X rays, to the whole scar if it is linear or to the junction of the graft with normal skin when a graft has been necessary. The burn scars of children often have an appearance resembling keloid, but in reality this is due to a hypertrophic stage; the scar flattens and becomes paler after some months without any radiotherapy. The low percentage of success with true keloid, and the doubt about the diagnosis in children with florid burn scars, make it undesirable in my opinion that the latter should be treated, for normal growth must at times be endangered by such treatment and gene mutations are very likely.

It is an easy matter to produce temporary epilation with X rays, but permanent epilation is caused only by a dose which is followed by obvious and unsightly skin damage. Some two years ago I deliberately risked visible skin damage in treating a girl who had become psychopathic about intermammary hair; but there is no place in radiotherapy for the routine removal of unwanted hair. Similarly, sweat glands may easily enough be rendered temporarily inactive, but their permanent destruction involves an undesirably high dose. I temporarily dried the dripping hands and axillæ of a girl for a "special occasion" and repeated the procedure for her once later, but subsequently declined to allow her to risk gross skin damage by further X-ray treatment although she was desperate enough to accept it. The only sympathetic-nerve division for this condition to have come to my notice was most successful; but apparently there is a real risk of subsequent pain which is most difficult to relieve.

The Musculo-Skeletal System.

Ankylosing Spondylitis.

First in importance of those abnormalities of the musculoskeletal system amenable to radiotherapy is ankylosing spondylitis, for this crippling disease may be checked if treated with X rays before it is too advanced, and may be cured if it is treated early enough. Our profession as a whole is now aware of the necessity for early diagnosis of this condition, and certainly the radiologists carefully examine the sacro-iliac joints when symptoms suggest that *spondylitis ankylopoietica* may be present. It is well to remember that X-ray examination is very important for a young person who has backache, particularly at night and on first rising in the morning, unless good cause for this can otherwise be found. X-ray treatment is usually directed to the whole spine, for if only the lumbo-sacral segment is treated for pain low in the back it is usually necessary later to give separate treatments to the higher segments. The small, repeated doses formerly given have recently been replaced by much larger ones, and in some clinics by irradiation of the whole body or whole trunk. Doses of the order of 100*r* per week repeated for about five weeks have produced some very satisfactory remissions in my hands; but it is true that a higher, more concentrated dosage generally gives longer remissions and will relieve some patients who are not helped by the low-dose course. Some caution must be used in the choice of high dose levels, for it has recently been shown in England that the rate of development of leuchæmia is relatively high in patients previously treated with X rays for ankylosing spondylitis, while in one small group of ex-service people treated during and since the last war, this rate may well be twenty or thirty times the normal. Of interest in this regard are the American figures showing a rate of leuchæmia in radiologists six times greater than the average. It is a complication which I have not seen, and it may be significant that I have not used wide-field irradiation of the whole body or trunk, a method that in my opinion has little to recommend it. A further warning must be stated in regard to irradiation of the ovaries in a young woman. By the use of tangential beams it may be practicable to exclude the ovaries from direct irradiation, but indirect irradiation by scattered X rays cannot be averted, and while the dose so received is not likely to cause sterility it may well produce gene mutation. The same argument applies to males to a lesser degree, but in young women special care should be taken to establish the diagnosis before submitting them to a course of X-ray therapy.

Osteoarthritis.

Osteoarthritis, whether of the spine or distal joints, is relieved to a much lesser extent than is ankylosing spondylitis. Some authorities state that half the patients with osteoarthritis may be relieved by deep X-ray therapy, but my experience is that really worthwhile relief is obtained by a far lower proportion than this, while the extent and duration of remissions are not as great as they are in ankylosing spondylitis. It is difficult to assign a cause for relief in a degenerative condition such as this, but lessened muscle spasm appears to be the immediate cause of symptomatic improvement. I have not seen improvement in other forms of arthritis.

Tendinitis.

Tendinitis about the shoulder joint is usually relieved by X-ray therapy. Small doses are effective, perhaps 200*r* to 300*r* in the inflamed area as an initial treatment, followed by 100*r* to 200*r* weekly for five or six doses. Pain becomes less and the range of mobility of the shoulder increases before the course of treatment is complete, and the abnormal calcification often disappears. A full range of movement may not be achieved.

Infections.

Radiotherapy is not often sought for infections of the musculo-skeletal system. On one occasion Dr. N. S. Gunning asked me to treat the femur of a woman who had for many years suffered from osteomyelitis persisting after a number of drainage operations. She appeared to become quite well; but one such case does not establish a method of treatment. In the days before penicillin was discovered actinomycosis of superficial tissues was successfully treated by radiotherapy, but high doses were required, verging on those used in cancer treatment. It may be as well to remember this with organisms showing the ability to develop resistance to antibiotics. Gas gangrene was said to respond to radiotherapy; but in the two or three instances in which I had the chance to test this I was not convinced that any improvement had occurred.

The Uterus and Ovaries.

Endometriosis and Menorrhagia.

Radiation treatment of endometriosis and menorrhagia is, of course, commonly used. In both the effect is indirect, through the ovaries, and it may be brought about either by radioactive material inserted into the uterus or by deep X-ray therapy from outside. Undoubtedly deep X-ray sterilization is more comfortable for the patient, who does not need to enter hospital, and who is not upset at all

by the three or four doses which suffice for the woman near the menopause. However, it is essential with such a patient to exclude carcinoma of the uterus as the cause of abnormal bleeding, and as the insertion of radium is almost always preceded by a diagnostic curettage, it is not my custom to press for deep X-ray therapy. But there is no question about the relative advantage of X rays over γ rays when cancer has been excluded.

Primary Amenorrhœa.

For many years there has been a belief, particularly in the United States, that a "stimulating dose" of X rays to the ovaries is good treatment for primary amenorrhœa. The theory is manifestly wrong, for ionizing radiations are always destructive to a greater or lesser degree, although the body can apparently repair very small damage such as is caused by cosmic radiations and the radioactive potassium contained in minute amounts in all animals. But whatever the cause, some strange results have followed such treatment.

In 1932, under instructions from Dr. Stanley Verco, I gave small doses of X rays to the pelvis of a woman who had primary amenorrhœa and had been married for eleven years without conceiving. After her treatment she had a menstrual period, which was an event of some interest in family and scientific circles, and then she became pregnant. In the tradition of a satisfied customer she brought along her sister, similarly afflicted, and married seven years without conception. Our treatment produced exactly similar results. With increasing experience of the dangers, as well as the advantages, of radiation treatment, I have consistently refused to repeat such magic, for I cannot believe that the satisfaction of parenthood by artificial means is worth the growth of a child almost certainly bearing a gene mutation to inflict its mite of trouble on posterity. So called "stimulating" doses to the pituitary gland have been, as may be expected, without result.

The Alimentary Tract.

Leucoplakia.

It may not be agreed by everybody that leucoplakia is a benign condition, but on the supposition that it is benign at some stage leucoplakia of the lips and mouth is included in this discussion. This is a most unsatisfactory disease to treat, for although it responds to radiotherapy, a relatively high dose is needed. Thus a small area may be removed either by radiotherapy or by operation, and a larger one may still be controlled by operation, either diathermy coagulation or excision and graft; but the extensive disease is the despair of surgeon and radiotherapist alike. There are technical difficulties of very great degree in applying an efficient dose of either radium or X rays to an extensive buccal leucoplakia without seriously damaging normal structures, and such an area is probably best left alone until some increased local thickening shows the development of a carcinoma which calls for active measures. It is well known that the final result is poor.

Non-Suppurative Parotitis.

The parotid gland is reasonably considered with the alimentary tract, and it enters the scope of tonight's discussion because the uncomfortable and unsightly non-suppurative inflammation may often be relieved by a suitable course of X-ray therapy. In my hands this has involved small weekly or bi-weekly doses going on for several weeks. The resulting relief may be long-lasting. Strangely enough, when the normal parotid gland is necessarily included in the field of treatment designed for some other structure, the first dose of the course is often followed by an uncomfortable and even painful parotid swelling. This develops usually within eight to twelve hours, and it is fortunately of short duration, subsiding within twenty-four to thirty-six hours. In such a case the second dose is most unlikely to cause such swelling, and subsequent doses have no perceptible effect.

Peptic Ulcer.

My first patient given X-ray therapy for a peptic ulcer had previously had an excision of his ulcer and later an inadequate partial gastrectomy, after which the ulcer recurred and was causing worry by bleeding. With very little hope of doing him any good I agreed to give him a course of deep X rays; the man quickly became well. Professor J. W. J. Carpender of Chicago states that secretion of gastric acid may be greatly decreased or abolished by a dose of 1600*r* given in three weeks, but I do not know for how long this suppression lasts. As there are other satisfactory methods of suppressing acid production, and in theory at least there is a risk of production of gene mutations, X-ray therapy should be reserved for patients of middle age and above.

The Eye.

In 1932 I treated a middle-aged woman for a tumour of the skin of her nose, using a radium mould as was customary at that time. The nose responded well; but I was more than surprised to be told by the patient that I had also cured her "cataract". This proved to be a pterygium, which had certainly shrunk to negligible proportions. Since that time I have been called on to treat a few patients with vernal catarrh, and on one or two occasions a cornea which was becoming vascularized. For this purpose I have used a radium plate, in which the radium is filtered by a very thin "Monel" metal sheet and a thin piece of rubber; the irradiation so produced is 95% β particles, and it may fairly be described as β ray treatment. A Sr^{90} source has been used in Adelaide to provide a pure β radiation. It is waved backwards and forwards for a predetermined period over the eye being treated, in what has always seemed to me a sloppy and unscientific way of trying to apply a set dose of rays of very little penetration; but nevertheless the physicists of my department have found by experiment that an even dose may be given in this way and repeated with reasonable exactitude. Dr. M. Lederman, of the Royal Marsden Hospital, London, has been a pioneer in this type of work. At first he used a very narrow beam of X rays directed accurately on to the anterior surface of the eye from the temporal or the nasal side, thus avoiding irradiation of the lens and with it the chance of cataract. Now he uses Sr^{90} sealed in a clear plastic cup, and by keeping a series of these cups with variable areas of Sr^{90} impregnation he is able to treat a variety of conditions. The lens is protected because of the low penetration of the β particles. In addition to the diseases noted above, he has also been able to relieve the painful photosensitivity and blepharospasm of rosacea keratitis, and has had some success in treating Mooren's ulcer. The field is obviously a specialized one. In Adelaide we have had some very satisfactory results in treating exophthalmic ophthalmoplegia, finishing with a useful eye rather than the fixed and useless organ which commonly results from this serious trouble. The successes have occurred only in those eyes showing gross chemosis, and not in those prominent eyes which show a clear sclera. X-ray treatment of the whole orbit has been given on the lines originally suggested by the radiotherapists of Guy's Hospital.

The Ductless Glands.

The Thyroid.

Perhaps the most important benign condition suitable for radiotherapy is thyrotoxicosis. In the early days of this specialty X-ray treatment of the thyroid gland became an accepted method of controlling thyrotoxicosis, but it required a course of treatment, and there was some difficulty in estimating the dose required in any individual case, so that X rays were seldom preferred to the well-tried partial thyroidectomy. It was recognized that the very hyperactive gland gave the best results, and thirty years ago Dr. Finzi in London claimed that he could tell whether his thyrotoxic patient would respond to X rays as soon as he had shaken hands with her. However, the atomic age has made a difference, for I^{131} is concentrated in the thyroid gland as compared with the blood-stream some 10,000 times, and thus radiotherapy of this gland from within has become a thoroughly practical measure. There are still some difficulties in calculating the dose required for any individual patient, and most of the published methods depend upon a clinical estimate of the weight of the thyroid gland, with an acknowledged fallibility of 33% to 50%. However, it is not essential that

a euthyroid state must be produced by one dose of I^{131}, and a succession of several doses is quite acceptable and really cannot fail eventually to suppress thyroid function. The method is simple enough for the patient, who is merely required to drink one or two teaspoonfuls of a clear, tasteless liquid while fasting, and subsequently to submit to periodic clinical examination to determine whether further doses are necessary. In some centres the treatment pendulum has now swung the other way, for Professor E. A. Astwood, of Boston, United States of America, states that there has not been an operation for thyrotoxicosis in the Tufts Medical College since 1944.

There are many obvious advantages of this treatment, including the lesser cost as compared with surgery, the almost complete absence of thyrotoxic crisis, and an absence of parathyroid damage. There are also disadvantages, some of which are practical and some theoretical. Definite improvement after I^{131} treatment may not occur until nearly two months have passed, so that the gravely ill patient will probably need surgical ablation of the gland. In rats given I^{131} a rather high rate of thyroid cancer has subsequently developed. It is a dangerous thing to apply to one animal the results of carcinogenic experience with another, and Dr. Robert Robbins, of Temple University Hospital, Philadelphia, has actually found a lower rate of thyroid cancer in his patients given I^{131} than may be expected in the population at large. However, to be on the safe side many therapists will not give I^{131} to patients under the age of forty-five years, not because people above this age are economically worthless, but because after this age the normal expectation of life and the probable latent period before the cancer develops make this a less important feature even if it is true. A further theoretical disadvantage is the possibility of producing gene mutations. In our present state of knowledge, or the lack of it, this cannot be denied; but so quickly does the thyroid take up and concentrate the iodine that the radiation dose received by the gonads from an average intake of I^{131} is of very small order, and in the majority of subjects probably quite unimportant. Another disadvantage is the proportion of patients who develop a subthyroid state even with the most cautious of treatments; but it is much easier to control subthyroid symptoms than those of hyperthyroidism.

In summary, the following indications for treatment of thyrotoxicosis seem reasonable in the present state of our knowledge: operation for young people, probably for those with nodular goitre because a small proportion of these develop cancer, and whenever a quick effect is required; I^{131} for those aged over forty-five years, for post-operative recurrence at all ages due to the technical difficulty in excising these, for any patient in whom the operative risk is high, and for patients with angina at rest and severe cardiac failure.

Hashimoto's disease is said to be radiosensitive, but as the diagnosis is usually not made until after the gland has been removed surgically, this is not an important practical point. Acute and subacute thyroiditis are said to be highly sensitive; I have not been called on to treat either of these conditions.

Before I leave this subject it is of interest to record that astatine, a radioactive element not found in nature, but produced only by the atomic pile or cyclotron, is also selectively taken up by the thyroid gland. At present it is not used in clinical medicine, because it has been found by research in the University of California that the therapeutic dose is too close to the toxic dose; but investigations are proceeding.

The Thymus.

Radiotherapy of persistent thymic enlargement in infants has been practised for years. It is called for much less frequently now that it is known that although involution of the thymus may be slow in some children it may still occur naturally in time, and since it has been generally recognized that not all stridor and whistling respiration in infants are due to thymic enlargement. This is perhaps fortunate, for Dr. Clark, a surgeon of the Arthur Billings Hospital, Chicago, has had under his care 15 children aged under fifteen years suffering from carcinoma of the thyroid gland, and every one of these had received X-ray treatment for enlarged thymus in infancy, on an average six to nine years previously. The exact relationship is not clear; but I am sure that if radiotherapy of the thymus was a widespread and pleasant habit, such as is smoking, we should find in our profession plenty of addicts who would publicly state that these figures do not prove any relationship between radiotherapy in infancy and carcinoma of the thyroid gland. Whatever the association proves eventually to be, for the present I should require strong persuasion before agreeing to treat a benign thymic enlargement with X rays.

Angioma.

Probably most of us have seen a good result after treatment of a hæmangioma in a baby's skin, and these benign tumours, particularly the cutaneous and subcutaneous cavernous nævus, react so well on the average that it is tempting to treat every one that offers. They respond best when treated in an early stage, and the usual advice is to bring the baby to the radiotherapist in the first six months of its life. The rather low-voltage X rays and the small fields of treatment used on these tumours surely make gene damage an unlikely occurrence; but the radio-sensitivity of a tissue increases steeply with youth, and I find myself becoming more conservative in my approach to infantile hæmangioma as time goes on. The surgeon is now so good at arranging a satisfactory cosmetic result, and there is so much evidence that the average nævus will resolve spontaneously by the time the child reaches the age of four to six years, that I tend to treat mainly those on the child's face which cause distress to relatives and suggest the likelihood of visible scarring after operation. The "port-wine" stain is certainly not suitable for radiotherapy.

In adults an occasional cavernous hæmangioma will respond to a reasonable dose of X rays, and I can recall a cavernous lymphangioma which reacted quite well. I am at present treating a large, inoperable hæmangioma of the liver in a man referred to me by Dr. Ronald Hunter, and his condition is at least improving. The "spider" nævus is not sensitive, and it is, of course, very easily cured by diathermy coagulation of the central leash of blood vessels. I have treated an angioma of a vertebral body and thereby relieved pain. The special angioma causing *meningioma en plaque*, at one time thought by Professor R. McWhirter to be radiosensitive, is now classed by him as resistant.

Allergic States.

In addition to the vernal catarrh described above and allergic dermatitis, radiotherapy is used for relief of allergic swelling in the nasal sinuses. With X rays definite improvement can usually be obtained; but a course of treatments sufficiently large to cause erythema of the skin of the face usually does not produce long-lasting effects —it may be sufficient to tide a patient over the pollen season, for example. Radium or other radioactive material packed into a more limited area such as the ethmoid cells may produce sufficient mucosal scarring and fibrosis to abolish the power to swell and thus provide a long-term local cure. I have considerable doubt whether such treatment is justified except under special circumstances.

Blocked Eustachian Tubes.

When the Eustachian tubes are obstructed by lymphoid overgrowth, radiotherapy may well be tried. In Adelaide the method commonly used by the aural surgeon is to pass a Co^{60} source at the end of a wire stem up the nose and place it for a measured time against the orifice of each tube in turn. So long as the radioactive material is correctly sited (and to me this seems at times to require a little good fortune as well as good management), and so long as it is lymphoid overgrowth at the pharyngeal end of the tube which is causing trouble, then no doubt this is a satisfactory method. But if the surgeon is dealing with submucosal lymphoid hyperplasia along the length of the tube, his treatment will fail unless, owing to the operation of the inverse square law, he gives a high radiation dose to the pharynx. Divided doses of X rays with a small collimated beam provide a convenient means of treating the necessary block of tissue to the required

level. The total dose is quite small, and I have seen neither reaction nor evidence of tissue damage in a number of children treated successfully in this way.

Tuberculous Lymph Nodes.

Before the antibiotic era we were asked from time to time to treat tuberculous lymph nodes. In Australia this disease is not particularly common, but I have had sufficient experience of it to feel convinced that a course of small weekly or bi-weekly doses of X rays will help in resolution of the swollen, inflamed nodes and will hasten cure, perhaps with calcification. It is said that tuberculosis of the renal tract will also respond to X-ray therapy, but I have no personal experience of this, nor of such treatment of pulmonary tuberculosis, which at one time had a vogue on the Continent.

Conclusion.

There are many other conditions that could be mentioned, such as *tic douloureux*, which seems to have responded in two or three cases, and pruritus, especially of the anus and vulva; but time does not permit. So now, Mr. President, I bring to an end my long but still very incomplete survey of radiotherapy in benign conditions. The forerunners in this now maturing specialty were an inquiring and enthusiastic band, and if there is anything in medicine that they did not treat with their newly discovered rays, it is only because they did not know of its existence. It may seem strange, then, that with all this background I should tend to emphasize what not to treat rather than what is suitable for radiotherapy. The reason is that all ionizing radiations are destructive to a greater or lesser degree, and it is our duty to take a second critical look at the indications for this treatment and the results which follow it, for simple enthusiasm is not enough. In the United States, particularly in the Chicago area, a group of doctors twenty-five years ago gave to their patients a watery extract of radioactive ores as a "tonic", and in one case a doctor gave some to his son. Radioactive materials are largely deposited in bone, and in Chicago I was recently shown a number of X-ray films recording a characteristic bone destruction as a result of this "tonic", while the first bone sarcoma in this group has been recorded. With the best of intentions, this is the supreme example of an ill-informed enthusiasm in my specialty. In this country the results of over-enthusiastic use of ionizing radiations will be less obvious and dramatic, and are likely to become evident as gene mutations among future generations. My concern is that radiotherapy should not be demanded light-heartedly, and that its manifest advantages should be used with the least possible disadvantages.

Reports of Cases.

AN ACCOUNT OF SOME FRACTURES OF THE TALUS.

By R. DANIEL,
Mayfield, New South Wales.

FRACTURES of the talus are rather uncommon, particularly fracture dislocations; of the latter Watson-Jones (1955) states that, apart from flying accidents, nearly all reports in the literature are based on one or two cases. The following report describes some recent cases at Wallsend Hospital, including a fracture dislocation.

Both Watson-Jones and Hamilton Bailey state that the most common cause of the fracture is injury to the neck of the talus by the sharp anterior articular surface of the tibia. A common cause during the war affected aircraft pilots, who in crash landings had both feet on the rudder bars. The sudden deceleration on crash landing caused fractures of the neck of the talus.

Unless the injury is suspected, the diagnosis is often missed, because the condition often presents clinically as a possible Pott's fracture. The ankle joint is swollen and tender and the patient cannot put any weight upon his foot without a great deal of pain; plantar flexion and dorsiflexion are also painful.

In one of the cases described below, ligamentous traction caused flake fractures from the anterior and lateral aspects of the bone. The cases reported will be divided into two types, as follows.

Class I.

A youth, aged eighteen years, was involved in a motor-cycle accident. Apart from severe head injuries his right foot was presumably caught in the wheel. As a result of this his right ankle was severely damaged, the talus taking the brunt of the accident with severing of the Achilles tendon. The radiologist's report read as follows:

> A comminuted fracture of the talus through the mid position. The talus is dislocated in relation to the calcaneus and the head of it has been rotated through ninety degrees and is as a result dislocated from the navicular.
>
> The cuboid is fractured in its lateral aspect and the calcaneus on its posterior and superior corner. The whole foot tilts medially in relation to the ankle joint and the body of the talus. Both malleoli are intact, no evidence of fracture.

Open reduction was performed and the fracture was manipulated, the talus being placed in a more satisfactory position. The foot was then immobilized in plantar flexion. Unfortunately the patient died from his head injuries four days later, so the final result could not be assessed.

This case has been presented merely because of the unusual fracture.

Class II.

The second class combines fractures of the talus all caused by the same accident.

Six miners were in a cage being brought to the surface from the mine when, owing to an error in the machinery, the cage got out of control and fell 70 feet to the bottom of the shaft. There was a handrail in the cage, and three of the miners clung on to the handrail and endeavoured to keep their feet off the ground.

Two of the miners who were not hanging on to the handrail received severe compound lower tibial and ankle injuries, but not fractured tali; the third sustained a fracture of the malleolus.

The miners hanging to the handrail received trauma to the ankle joint, and two of these three had fractures of the talus; the third had no bone injury. The circumstances of these fractures are all similar to the case of the aircraft pilot quoted by Watson-Jones. The vertical fall in the cage caused the articular surface of the tibia to injure the talus when the cage struck the bottom of the mine.

The radiologist's report on the injuries of the two miners who clung to the handrail are as follows:

> 1. Left Ankle: The talus has a fractured neck without any significant displacement. The *sustentaculum tali* of the calcaneus has also been fractured and displaced a little upwards from its site of origin. As a result there is a partial dorsal dislocation of the anterior portion of the talus in relation to the calcaneus. The spring ligament is usually severely traumatized with this type of injury.

This fracture was immobilized in dorsiflexion, with satisfactory results.

> 2. Left Ankle: Two thin flakes of bone have been avulsed but not displaced from the anterior aspect of the talus, and also from the lateral aspect of the same bone. There is also widening of the joint spaces between the talus and calcaneus, and navicular and cuboid. The findings indicate very severe ligamentous trauma at the site of this tarsal articulation.

This fracture was also immobilized in dorsiflexion, with satisfactory results.

As a point of interest, the construction of the cage in which the miners were travelling was as follows. The cage itself had two rails on the bottom, so that small

coal trucks from underground could be carried to the surface and wheeled away on surface rails.

The handrail to which three miners were hanging was within easy grasping distance above the head—that is, approximately six feet six inches from the floor of the cage. This rail is usually very slippery, owing to its being handled by many people, and it would be very easy to lose grip on it.

The two miners who suffered the worst leg and ankle injuries had a foot on the rail, and the impact of the fall twisted their legs across the rail, so causing severe injuries.

The third miner who was not clinging to the handrail was leaning against the corner of the cage, which did not hit the ground on all four corners. The opposite side of the cage took the first impact, breaking down the initial shock slightly.

The mechanism of the fracture of the talus of those clinging to the handrail would be that of a vertical force when the cage hit the bottom, the hands slipping from the greasy bar on impact, the talus taking the weight of the fall.

It is interesting to note that a similar accident involving seven miners occurred at Cessnock four weeks after the cases described here. One miner clinging to the handrail managed to keep his feet off the floor altogether and was unharmed, although why he did not suffer dislocated shoulders is a mystery. The others received similar injuries to the patients discussed in this paper, including some fractures of the talus.

Acknowledgements.

My thanks are due to Dr. W. Holley for permission to publish his cases, and to Dr. F. Opitz and Dr. G. T. Archer for their helpful suggestions. I am grateful to the X-ray staff of the Wallsend Hospital for furnishing the radiological reports.

Reviews.

Pathology. Edited by W. A. D. Anderson, M.A., M.D., F.A.C.P.; Second Edition; 1953. St. Louis: The C. V. Mosby Company. Melbourne: W. Ramsay (Surgical), Limited. 10" x 7", pp. 1408, with 1251 illustrations, 10 in colour. Price: £8 8s.

For those who know the first edition of Anderson's "Pathology" there is no need to introduce the second edition. It merely brings the book up to date. For those who do not know the book it may be helpful to describe its design and scope. It contains 45 chapters written by 33 contributors, and is edited by Professor W. A. D. Anderson. The writers are all well-known authorities in their subjects in America. The object of the book is to cover the whole field of pathology in a single volume. This it does excellently. Of course it is impossible to compress the whole of pathology into a single volume, and for those who require more detailed information there is an adequate bibliography at the end of each chapter. The first nine chapters are devoted to the usual basic general principles, such as inflammation and repair, disturbances of circulation, degeneration, and so on. Of these chapters, two will be found very useful, "Chemical Injury" and "Effects of Radiation", because these subjects are often omitted from text-books of general pathology or receive only brief mention. Much of the information in these two chapters, such as the toxic effects of substances more recently introduced for industrial purposes or pharmacological use, or the effects of the higher voltage X rays or atomic bomb explosions, is still scattered in specialist journals, and is here conveniently summarized. The next seven chapters deal with diseases caused by bacteria, rickettsiæ, viruses *et cetera*, and include a chapter on "Fungus Diseases" and one on "Protozoal and Helminthic Infections". The chapter "Neoplasms" by Shields Warren, discusses the subject in broad outlines and is an adequate summary of our present knowledge of neoplasia in general. The descriptions of individual tumours are given in the appropriate chapters devoted to the organs in which they occur. The rest of the book, except the last chapter, is devoted to the pathology of various organs or systems in 26 chapters. These include a chapter each on "The Organs of Special Senses" and "The Skin", subjects which are often omitted from text-books of general pathology. The last chapter is on "Heredity and Constitution in Disease". This brief indication of the scope of the book will give some idea of the amount of compression that has had to be made. In spite of this, the editor and contributors are to be congratulated on the amount of concise and precise information which has been amassed in the fourteen hundred or so pages.

There are three groups of people likely to use this book—undergraduates, graduates and those specializing in pathology. Whether it can be recommended as a text-book for undergraduates will depend upon how the subject of pathology is integrated with the rest of the medical course. It is definitely not a book to be handed to students with the instructions to "learn what's in big print in that and you'll know all the pathology you need for the examination at the end of the year". The student would get mental indigestion. In some centres the teacher of pathology would prefer his students to use a less comprehensive book as a text-book and to use one such as this as a reference book. This would probably be the better course, if the undergraduate could be persuaded to buy two books on one subject, to sell the smaller when he has finished his examination, and to use the larger for the rest of his or its life. In other centres with a different curriculum and different methods of integrating pathology with clinical medicine, what the editor says in his preface may well hold true, that "The use of a book of this size and scope by the undergraduate medical student appears justified where the teacher of pathology executes his true functions of guidance, interpretation, stimulation and encouragement". One has less hesitation in recommending the book to graduates, including those specializing in pathology.

A liberal use has been made of black and white illustrations. These are of a high quality and so are the ten colour plates, many of which contain several pictures.

Principles of Chest X-ray Diagnosis. By George Simon, M.D., F.F.R.; 1956. London: Butterworth and Company (Publishers), Limited. 11¾" x 8¾", pp. 194, with illustrations. Price: 68s. 6d.

This is a unique book. Dr. Simon's approach to his subject is fundamental, as the title implies. It is not an atlas of radiographs representing various disease processes. Books previously published dealing with X-ray diagnosis in relation to chest disease have been in the main a series of reproductions of radiographs considered to represent the appearances seen in various disease processes. These are of very limited usefulness.

Dr. Simon's approach has been to describe the shadows factually as they are observed, recognizing the inevitability of a certain amount of observer error, then to proceed to the interpretation of the appearances in terms of anatomy and pathology, and finally to correlate the findings with the clinical picture. Each section of the book follows this pattern.

At the outset he defines his terminology. Confusion frequently arises because the writer of an X-ray report uses terms the precise meaning of which is uncertain or which may mean different things to different people. The use of words in the description of shadows which more properly pertain to morbid histology is rightly condemned and "infiltration" is considered particularly misleading.

The reproductions in this book are of exceptional clarity and retain remarkable detail, so that one is never in doubt as to the appearances described. There has been careful correlation of morbid anatomy and histology with the X-ray appearances, the author having taken great trouble to ascertain the bases for the production of various shadows.

The book is written "for the student radiologist and for the clinician who is particularly concerned with chest diseases . . .". It is to be hoped that all practising radiologists have remained students, for all have much to learn from this book, as have all those clinicians, whether physicians or surgeons, who choose to look at the radiographs of their patients' chests whether they read the radiologist's report or not.

Management of Life-Threatening Poliomyelitis: Copenhagen, 1952–1956, with a Survey of Autopsy Findings in 115 Cases. Edited by H. C. A. Lassen, M.D.; 1956. Edinburgh and London: E. and S. Livingstone, Limited. 8¾" x 5¾", pp. 190, with illustrations. Price: 22s. 6d.

This small book contains the report and afterthoughts of a team who were concerned with the management of the extraordinary epidemic of poliomyelitis in Denmark in 1952. In this epidemic there was a high incidence of severe respira-

tory complications and, with no previous experience to guide them, the authors evolved the methods outlined in this book. The authors included anæsthetists, physicians, oto-rhino-laryngologists, pathologists and physiotherapists, who, between them, contribute 19 chapters. Following a survey of the epidemic an attempt is made to classify the types of respiratory insufficiency encountered. This classification follows the orthodox lines but adds a condition called "cerebralia", which denotes a defect of consciousness not primarily due to the virus, but to one or more associated factors, such as anoxia, carbon dioxide retention, uræmia *et cetera*. Chapters on the mechanics and physiology of artificial respiration follow, but, even for one acquainted with respiratory physiology, these are hard to understand—possibly owing to over-condensation. The chapters on the clinical features of acute respiratory insufficiency and its complications are excellent, as is that on tracheotomy and bronchoscopy. There is a chapter on the various types of mechanical respirators which is of great interest, but which describes only those manufactured in continental Europe, and these descriptions are very brief. It is evident that in emergencies satisfactory positive pressure respiration can be immediately commenced and maintained by the use of a Water's canister and a manually compressed bag. There are interesting and informative chapters on lung physiotherapy, complications, special conditions and laboratory control in the patient under continuous artificial respiration, some of whom were so maintained for three years. There is a short chapter on the electrocardiographic changes in the disease. Their results are clearly tabulated and collected with autopsy findings in many cases. There is, however, no information as to the final functional result in those patients who recovered from respiratory insufficiency.

The book is well printed in a clear type, profusely illustrated with photographs, diagrams and tables, and the translation by Danish authors is excellent. It is moderately priced and easy to read on the whole. Despite the hope that prophylactic immunization will make this dread disease a rarity, cases will undoubtedly still occur, and it should be remembered that the principles of positive pressure respiration can also be applied in the treatment of tetanus, narcotic poisoning and head injuries. It is recommended that this book be available to and read by all those likely to have to handle such conditions, particularly in country hospitals.

Ophthalmology: A Textbook for Diploma Students. By Patrick D. Trevor-Roper, M.A., M.B., B.Chir. (Cantab.), F.R.C.S., D.O.M.S. (Eng.); 1955. London: Lloyd-Luke (Medical Books), Limited. 8¼" × 5¼", pp. 672, with many illustrations. Price: 75s.

THIS publication of a text-book specifically designed to cover the field of ophthalmology embraced by the London "Diploma in Ophthalmology" may appear to be quite worth while. Nevertheless, Trevor-Roper's frank avowal of his aims may give rise to a feeling of prejudice against his book in the minds of those who view the diploma system with suspicion, and who realize that the most essential step towards the acquisition of any diploma is the engagement of the service of a crammer fully acquainted with the idiosyncracies of the examiners. Too often the successful candidate closes his mind with the text-book at the conclusion of the examination and gives no further evidence of the curiosity and scepticism necessary for its development.

To meet the requirement of the D.O. (London), anatomy, physiology and optics occupy a much larger space than is customary in a book of this size. With this in mind, the important photomicrograph of the filtration angle on page eight might have been orientated in the more conventional position, and the antiquated picture of a rod and cone (after Greef) on page nineteen replaced with something more accurate. This is no reflection on Greef—an early pioneer in the subject with which the author does not appear too familiar.

Of necessity, the whole subject of ophthalmology is covered in rather a brief manner. For this reason, accuracy is all the more desirable. Hence, it is rather disconcerting to find the treatment of amblyopia in squint dismissed rather summarily with a very inadequate reference to the congenital type. Unilateral amblyopia is not only the result of arrested development or suppression. There is a congenital form which will not yield to occlusion, and one still sees far too many children tormented with a form of treatment which is useless to them. Orthoptics is discussed as if it was a well-recognized and useful form of treatment. There is no place for dogmatism in the treatment of strabismus and the student must be warned to keep an open mind on the subject.

The possibilities of corneal grafting fascinate the surgeon as much as the radio announcer. Because of the blaze of publicity surrounding the operation, there is a great need for caution in the selection of cases. Whilst Trevor-Roper warns against operation on an eye with vision of more than 6/60, it is disconcerting to find him recommending a penetrating graft for blood staining of the cornea—a condition which clears itself in time.

In our opinion, this book hardly meets the requirements of the serious post-graduate student in ophthalmology.

Treatment of Heart Disease: A Clinical Physiologic Approach. By Harry Gross, M.D., F.A.C.P., and Abraham Jezer, M.D.; 1956. Philadelphia and London: W. B. Saunders Company. Melbourne: W. Ramsay (Surgical), Limited. 10" × 6¼", pp. 559, with illustrations. Price: £6 10s.

THE authors have endeavoured to establish a physiological basis for the treatment they advocate in various cardiac conditions. This has been done in such detail that the criticism might be levelled that the book is rather a work on cardiology with special attention to therapy. This may be a good move, but it does appear at times that some statements could well have been omitted. Unfortunately there are a large number of errors in the text which should have been corrected by the proof-reader, and which at times confuse the issue.

The field is well covered, reference being made to current work for which a good bibliography is provided.

The book is amply illustrated by useful diagrams, figures, electrocardiograms and X-ray silhouettes. Although many authorities are quoted, it is noted with appreciation that the authors do not hesitate to give their own opinion on occasion.

Apart from the usual main groups of subjects there are interesting sections on matters which have been receiving more attention in recent times. These include anæsthesia and surgery in heart disease and cardiac trauma.

The effects of metabolic disturbance and of psychosomatic disorders are discussed. Rehabilitation and regulation of activity provide a valuable section. Finally comes a comprehensive section on diets, which includes special diets and recipes as well as a table of sodium and potassium contents of foods.

In spite of any adverse criticism, this book is to be recommended not only on account of its being comprehensive and up to date, but also because in advocating treatment the authors have made common sense override enthusiasm.

Notes on Books, Current Journals and New Appliances.

Postural Drainage. By E. Winifred Thacker; 1956. London: Lloyd-Luke (Medical Books), Limited. 7¼" × 4¾", pp. 64, with illustrations. Price: 8s. 6d.

THE author of this book, who is the Superintendent Physiotherapist at the Harefield Hospital, England, states in a preface that she has written the book to illustrate the technique of postural drainage and that it gives the various positions in which the patient should be placed so that gravity can assist in the drainage of the bronchi. The first chapter provides a simplified account of the anatomy and physiology of the respiratory system, more particularly as it applies to the technique of postural drainage. The second chapter deals with the technique itself, and additional chapters are devoted to special problems in children, the aged and grossly emphysematous patients, to pre-operative and post-operative treatment, and to the technique of breathing combined with coughing. This book is based on extensive experience and should be acceptable in a field in which comparatively little has been written.

Blakiston's New Gould Medical Dictionary. Edited by Normand L. Hoerr, M.D., and Arthur Osol, Ph.D., with the cooperation of an editorial board and 88 contributors; Second Edition; 1956. New York, Toronto and London: McGraw-Hill Book Company, Incorporated. 9¼" × 7", pp. 1489, with 252 illustrations. Price: $11.50.

The commendation which we gave to the first edition of this dictionary, which appeared in 1949, can be extended to the second edition. It is an unusually comprehensive dictionary, and when we learn that twelve thousand new terms have been added to the first edition, with eight thousand changes as well as modernization of spellings and usages,

it is clear that the editors have been very active in seeking to make the dictionary as up to the minute as possible. On the other hand, in order to keep the volume from being unduly obese, they have deliberately omitted obsolete or unused terms. This dictionary is attractively printed and prepared, and we can have little doubt as to its general reliability and accuracy. At the same time it is a little disturbing to note that the only error which we pointed out in our review of the first edition has not been corrected. It might also be mentioned that the term *Coxiella burneti*, which appears for the first time in this edition is designated correctly on page 290, but incorrectly on page 445, where, under the heading of "Q fever", we find the incorrect spelling *burnetii*. We hope that the editors will see fit to remedy these minor flaws in this valuable and monumental work of reference.

Changing Concepts of Psychoanalytic Medicine. Proceedings of the Decennial Celebration of the Columbia University Psychoanalytic Clinic, March 19 and 20, 1955. Edited by Sandor Rado, M.D., D.Pol.Sc., and George E. Daniels, M.D.; 1956. New York, London: Grune and Stratton, Incorporated. 8¾" × 5½", pp. 256, with illustrations. Price: $6.75.

To celebrate the first ten years of the activity of the Columbia University Psychoanalytic Clinic, a series of papers was presented which have now been collected into this volume with some of the subsequent discussion. Henriette R. Klein gives an account of the origins and history of the clinic, which, although essentially psychoanalytical in its activity, has sought from the beginning to be free from the *doctrinaire* attitude commonly found in this field. The position of the clinic is elaborated by the present director, Sandor Rado, in a paper which outlines the significant innovations of the clinic, its mode of operation and its relationship to other programmes for graduate instruction in psychoanalysis and psychiatry. The third paper deals with brain physiology and is presented by Ralph W. Gerard, Professor of Neurophysiology in the University of Illinois School of Medicine, Chicago, who was guest of honour at the celebration. Linked with this are two further papers on the basic theory of the subject. Then follow groups of papers on therapy, on work with children, on various clinical aspects of the subject, and on research on schizophrenia. The volume presents quite successfully the development, work and viewpoint of the clinic, which is all it sets out to do.

Modern Views on the Secretion of Urine: The Cushny Memorial Lectures. Edited by F. R. Winton, M.A., M.D., D.Sc.; 1956. London: J. and A. Churchill, Limited. 8¼" × 5½", pp. 300, with illustrations. Price: 30s.

THE ten lectures recorded in this book are the result of "an impulse to celebrate what has become a landmark in the history of renal physiology"—namely, the launching some forty years ago of his "modern theory" of the secretion of urine by A. R. Cushny. The majority of the contributors are present or former workers at University College, London, where Cushny occupied the chair of pharmacology for thirteen years. Each section of the subject is dealt with by a worker or workers distinguished in that particular part of the field. S. E. Dicker writes on standard renal clearances in mammals, M. Grace Eggleton on tubular reabsorption and secretion, Professor F. R. Winton on pressures and flow in the kidney, L. E. Bayliss on the process of secretion, Mary Pickford on antidiuresis, J. D. N. Nabarro on the adrenal cortex and renal function, H. Harris on genetic aspects of tubular function, Professor R. A. McCance and Elsie M. Widdowson on metabolism and renal function in the first two days of life, Professor M. L. Rosenheim on functional aspects of renal failure, and Professor G. M. Bull on osmotic diuresis in acute tubular necrosis. This is an authoritative and comprehensive survey which will be sought after by all who are interested in the problems of urinary secretion.

Peaceful Uses of Atomic Energy: Proceedings of the International Conference, August 8-August 20, 1955. Volume 12, "Radioactive Isotopes and Ionizing Radiations in Agriculture, Physiology and Biochemistry"; 1956. New York: United Nations. 11" × 8½", pp. 565. Price: 63s. sterling.

THIS is the twelfth volume of the 16 volumes which make up the Proceedings of the International Conference on the Peaceful Uses of Atomic Energy. It contains the records of five sessions of the conference, the record in each case consisting of the reprinting of the papers presented followed by the discussion. The first session was taken up with a paper on radioisotopes in biology and agriculture in the U.S.S.R., and then a survey by the Food and Agriculture Organization of the United Nations on the uses of atomic energy in food and agriculture. The next two sessions were essentially of agricultural interest. The record of the fourth and fifth sessions contains 57 papers dealing with many aspects of physiology and biochemistry in which radioactive isotopes have been used.

Books Received.

[The mention of a book in this column does not imply that no review will appear in a subsequent issue.]

"Anatomical Techniques", by D. H. Tompsett, B.Sc., Ph.D., with a foreword by Sir Cecil Wakeley, Bt., K.B.E., C.B., LL.D., F.R.C.S., and an Historical Introduction by Miss J. Dobson, B.A., M.Sc.; 1956. Edinburgh and London: E. and S. Livingstone, Limited. Price: 35s.

The techniques described are limited to those concerned with the preparation of museum specimens of human anatomy.

"Pulmonary Emphysema", edited by Alvan L. Barach, M.D., and Hylan A. Bickerman, M.D.; 1956. Baltimore: The Williams and Wilkins Company. Sydney: Angus and Robertson, Limited. 9¼" × 6¼", pp. 555, with illustrations and tables. Price: £5 10s.

One of the special objectives has been an attempt to establish the continuous inhalation of oxygen as among the most valuable of the agents available in the treatment of emphysema. There are 18 contributors.

"The Practice of Medicine", by Jonathan Campbell Meakins, C.B.E., M.D., LL.D., D.Sc.; Sixth Edition; 1956. St. Louis: The C. V. Mosby Company. Melbourne: W. Ramsay (Surgical), Limited. 10" × 6¾", pp. 1916, with 318 illustrations, including four in colour. Price: £8 16s.

First published in 1936, the fifth edition was reviewed in this journal in December, 1950.

"Refresher Course for General Practitioners"; specially commissioned articles from the *British Medical Journal*; Third Collection, April, 1952, to September, 1953 (fully revised); 1956. London: British Medical Association. 8¾" × 5½", pp. 566, with illustrations. Price: 25s.

A reprint of the well-known "refresher" articles in the *British Medical Journal*.

"Emergencies in Medical Practice", edited by C. Allan Birch, M.D., F.R.C.P.; Fifth Edition; 1956. Edinburgh and London: E. and S. Livingstone, Limited. 8¾" × 5½", pp. 696, with 155 illustrations, 12 in colour. Price: 37s. 6d.

The first edition was published in 1948 and the book has been published in German and Spanish editions.

"Blood Transfusion in Clinical Medicine", by P. L. Mollison, M.D., M.R.C.P., with a foreword by Sir Alan N. Drury, C.B.E., F.R.S.; Second Edition; 1956. Oxford: Blackwell Scientific Publications. 9" × 5¾", pp. 614, with illustrations and tables. Price: 45s.

This book covers every aspect of the subject; it is a second edition of the work published in 1951.

"Illustrations of Bandaging and First-Aid", compiled by Lois Oakes, S.R.N., D.N. (Leeds and London); Fifth Edition; 1956. Edinburgh and London: E. and S. Livingstone, Limited. 8¼" × 5¾", pp. 333, with 396 photographs. Price: 12s. 6d.

To enable the student, by means of pictures, to master quickly the science and art of bandaging and of first aid in fractures and hæmorrhages.

"Official History of the Canadian Medical Services, 1939-1945"; Volume I, Organization and Campaigns; edited by W. R. Feasby, B.A., M.D.; 1956. Published by authority of the Minister of National Defence. 10" × 6¼", pp. 580. Illustrated with paintings and photographs by Canadian war artists and photographers; maps drawn by Captain C. C. J. Bond. Price: $5.00.

This is the first volume of the Official History of the Canadian Medical Services during the second World War.

The Medical Journal of Australia

SATURDAY, FEBRUARY 2, 1957.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given: surname of author, initials of author, year, full title of article, name of journal, volume, number of first page of the article. The abbreviations used for the titles of journals are those adopted by the Quarterly Cumulative Index Medicus. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

ANTIBIOTICS IN THIS YEAR OF GRACE.

In December, 1955, attention was drawn in these columns to the "Antibiotics Annual, 1954-1955", a volume which recorded the proceedings of the "Second Annual Symposium on Antibiotics". It was a book of some 1164 pages and its table of contents was almost frightening in its length and in the range of subjects which it covered. In November, 1955, another symposium was held and the proceedings have been recorded in a volume of 1000 pages.[1] The publication has been sponsored by the United States Department of Health, Education and Welfare and the Food and Drug Administration, Division of Antibiotics, in collaboration with the journals *Antibiotics and Chemotherapy* and *Antibiotic Medicine*. As before, the chairman was Henry Welch, and he and Félix Martí-Ibáñez have acted as editors. Also, as before, this book is regarded as of such importance that attention is directed to it in the editorial columns rather than in those devoted to "Reviews".

The international character of the gathering is shown in the fact that 20 papers were presented from 15 foreign countries, including Australia, Austria, Canada, Chile, Denmark, France, Germany, India, Italy, Japan, Mexico, Portugal, South Africa, Spain and Sweden. Over 30 papers were presented on new antibiotics and some of these are stated by Henry Welch in his opening remarks to "offer possibilities for clinical use". Clearly this book, with others of the series, should at least be available for reference to all who wish to understand the progress of antibiotic study and the limitations imposed by it. Those engaged in the actual investigation of these therapeutic agents will need to have their own copies.

It would be impossible and is indeed unnecessary to attempt an account of the field covered in this work. Some of the subjects which must be mentioned do not lend themselves to abstraction. Three of these are the three panel discussions. The first was on the long-term and prophylactic use of antibiotics. There were six members of the panel. Dorothy H. Andersen spoke on the use of antibiotics in pædiatrics. Burtis B. Breese dealt with the prophylaxis of rheumatic fever, and Edward H. Kass with the management of infections of the urinary tract. Carl Muschenheim discussed the long-term and prophylactic use of antibiotics in tuberculosis. John R. Seal discussed the prophylaxis of the streptococcal infection. Douglas H. Sprunt reported work carried out during three or four years in the use of chlortetracycline as a prophylactic precaution in elderly persons who are ambulatory and living at home. After these subjects had been covered in a general way the "Moderator" of the session, Harry F. Dowling, asked about the appearance of resistant organisms other than streptococci when prophylactic antibiotics were given for the removal of streptococci. No definite opinions were given—everyone on the panel was "playing cagey". So it was with one or two other questions. The "Moderator" did not make a summary of the session, but said, as he closed it, that there were still "a number of problems related to long-term antibiotic therapy". The second panel discussion was on the subject of phenoxymethyl penicillin or penicillin V. Many papers dealing with the preparation had been read, and in several of them comparative studies as between penicillin V and penicillin G were reported. The second panel discussion was an effort "to evaluate the position at the present time of penicillin V in the scheme of things". The discussion occupies nearly 17 pages of the book, and though it was conducted with great skill by Dr. Morton Hamburger, the "Moderator", it is not easy to summarize. Two contributions may be mentioned. The first came from W. F. G. Cuthbertson, of "Glaxo" Laboratories, who declared that penicillin V was a very welcome addition to the wide variety of material available. At the same time he pleaded with pharmaceutical houses not to give up the making of aqueous penicillin for injectable use. There were two situations, peculiar to surgical practice, in which aqueous parenteral penicillin was mandatory. One had to do with patients who had peritonitis and/or allied disorders of the alimentary canal and could not take antibiotics by the oral route. The second situation was created by the patient with impending shock. In such a patient the absorption of antibiotics from the alimentary tract was delayed for a period which might be disastrous to the patient. The second contribution came from Maxwell Finland, who was introduced as "the dean of American chemotherapy". He described certain controlled observations by himself and others from which it was concluded "that an oral dose of penicillin V may have its only or greatest advantage over

[1] "Antibiotics Annual, 1955-1956", edited by Henry Welch Ph.D., and Félix Martí-Ibáñez, M.D.; 1956. New York: Medical Encyclopedia, Incorporated. 10" × 7", pp. 1010, with illustrations. Price: $10.00.

oral penicillin G if given after food and that oral penicillin V compared favorably with intramuscular penicillin G only at 200,000 unit levels but not at a dose of 400,000 or 1,000,000 units". At the end of the session Finland remarked that obviously penicillin V was a better "oral penicillin". There were a good many situations in which it was preferable to give penicillin by the oral route—if a patient was going to die of a susceptible infection and would not take penicillin by injection, obviously if you gave him a good penicillin by mouth, that was going to be his salvation. If one was going to give 20 million units, then the question of absorption was important, because one might get a diminishing return the bigger the amount that was given orally—a lot of that would probably be recovered from the stool.

In the third panel discussion, which dealt with the significance and the real incidence of reactions following the clinical use of antibiotics, some interesting views were expressed. Albert H. Holland, junior, began by saying that it would not be amiss to assert that the real incidence of reactions to antibiotic therapy in many instances and in many situations was certainly not known. With inadequate data on incidence, it was sometimes very difficult to draw conclusions of significance. Holland thought that it was unlikely that the real incidence would ever be fully known at any one time—experience suggested that there was a relationship between the number of people treated repeatedly with a given antibiotic and the incidence of sensitization. After making reference to staphylococcal enteritis, he pointed out that the significance of antibiotic reactions was to some extent manifest to all, and added that the medical attendant and the manufacturer could institute measures to minimize the incidence of the severe reactions. The law required the manufacturer to provide adequate labelling, including directions for use and appropriate cautions for safe use. Other than the selection of an effective antibiotic agent for the patient, the doctor's greatest concern was with the severe reactions, particularly those that were anaphylactoid. He could and should employ all the standard dicta of surgery and those associated with infectious disease. However, additional measures were indicated, and not the least of these were the more intelligent use of antibiotics and more vigorous efforts to identify routinely the invading organism and characterize the strain. Holland referred briefly to the problem of administering antibiotics, and particularly penicillin, to a person known to be sensitive. He explained that this could be done, but that it was not desirable except in exceptional circumstances. Here he quoted Ethan Allan Brown that the acuteness of the patient's sensitivity could be ascertained, first, by a patch test with increasing concentrations of the drug, and then, if the reaction was not too severe, with an intradermal test. If, as a result of the screening tests, it seemed that the patient was not likely to go into an immediate collapse, then the patient was "premedicated very elaborately with antihistamines, and with both aqueous and oily epinephrine". The antibiotic was then diluted, the diluent often being one of the soluble antihistamines. The antibiotic solution was injected in at least two, sometimes preferably more, sites. Holland insisted that the method should be resorted to only when it was a question of saving the patient's life. Charles R. Rein said that the true incidence of penicillin reactions could be determined only by relating the number of reactions observed during a period of time as the numerator and the number of persons receiving penicillin during the same period of time as the denominator. If it was correctly determined in that way, incidence was a matter of risk. Rein enumerated the factors which would have to be considered in any study designed to measure the incidence of penicillin reactions: (*a*) the length of period of observation or follow-up; (*b*) diagnostic criteria for a reaction; (*c*) route of administration; (*d*) the fact that incidence varied according to the type of preparation used; (*e*) the number of allergic, or penicillin-sensitive, individuals; (*f*) the fact that incidence increased with age; (*g*) occupational exposure; (*h*) determination of the population at risk. Other speakers dealt with the reactions associated with erythromycin and those resulting from the use of chloramphenicol. The problem of moniliasis in relation to the use of antibiotics and its management as a complication was discussed. Other aspects of the subject were mentioned.

Only one other subject dealt with at this panel discussion will be referred to; in some respects it was the most important of all. Félix Martí-Ibáñez read a paper entitled "The Next Half Century in Antibiotic Medicine and Its Impact on the History of the Clinical Case History". This title may seem somewhat involved, but it is clarified by some of the author's opening remarks. He said that if he were asked what sort of documents he would choose to comprehend better the medical history of any one period, he would not choose the biographies of the great scientists or even an enumeration of the great medical discoveries in that period. He would prefer a representative clinical case history scribbled by some physician at the bedside of his patient. Such a document "affords a live meaningful summary of the clinical know-how of an age, archetypically represented in the practical wisdom of a general practitioner". The history of medicine, as written generally with an eye only for medical giants, great discoveries and famous institutions, is, in the opinion of Martí-Ibáñez, only façade and contingency. "The basic facts, the true meaning of the history of medicine, all are contained in the unspectacular case history. . . ." Certain medical discoveries, we read, often determine the character of medicine of the next century. "This is what happened with the work of Vesalius, Harvey, and Pasteur. It also happened with Fleming and his followers who made of the XXth century the Antibiotic Age." Martí-Ibáñez, by studying the changes wrought by antibiotics in the history of the clinical case history, tries to discover what can be learned about the next half-century of this antibiotic age. He defines a clinical case history as the record of the physician's historical attitude when facing the problem of disease and the living reality of the patient. The history of medicine is "the story of a series of historic situations, strung together in the course of centuries, in each of which the physician tried to cure the patient by recalling age-old wisdom, by utilizing his own experience, and by exercising his intuition of what might happen in the future". Martí-Ibáñez gives a short account of the history of the clinical case history. The clinical case history was actually born with the 42 pathographic accounts written by Hippocrates in the first and third books of his "Epidemics".

Only in the work of the Father of Medicine do we find the first clinical histories or *"cathastases"*—this term covers not only a highly individualized account of what happens to a patient, but also a description of his environment and the nosologic entity that affects him. After several centuries of sterile Byzantine and Arabic groping, the Hippocratic *"cathastases"* were followed by mediæval *"consilia"*. These were as universal in scope as the Hippocratic accounts were individualized. They were concerned with disease as an abstract entity rather than with the individual patient, and their objective was, as its name suggests, to counsel the physician. Therefore the naturalistfc intention gave way to the didactic motive. The mediæval *"consilia"* lasted from the 13th to the 16th centuries, when with the advent of the Renaissance *"observatione"* a new concept of the clinical history was born. During this period individualization and humanization of the clinical report prevailed again, and new, mainly anatomical, elements appeared, relating the disease to the lesions it causes—this was a reflection of the impact of Versalius. The period of the Renaissance *"observatione"* merged by gradual integration into the *"historiæ morbi"* of the 17th century, after which Thomas Sydenham introduced a new pathographic concept of the clinical history which made the patient a jumping-off point for the description of diseases. "Thus, patients became the loom on which Sydenham's clinical history wove a multicolored tapestry of diseases." From the 17th to the 19th centuries the anatomico-clinical concept of the clinical history was elaborated. Later, at the end of the 19th century, two new factors came into play—one was the ætiopathogenic component, which had gained in importance since the days of Pasteur, and the other was the pathobiographical and anthropological approach of Freud. Disease, then, was considered not as an accident or unhealthy deviation in the patient's life, but as an integral, active part of that life, as a basic way of life. Martí-Ibáñez gives a succinct account of the features of the current clinical case history, which, for reasons of space, we must refrain from quoting. We may, however, mention some of the "features"—1: The current history is not written by a single individual, as it once was, but is the result of collaboration by several persons. 2: It attaches great importance to laboratory reports. 3: Except in psychiatric cases it attaches little importance to the patient's "total person". 4: It still forgets to a great extent the biographic account and stresses the accident of infection. 5: It stresses the therapeutic element. 6: It introduces the environmental factor. Our auther then deals at some length with what he calls the integrating factors of the clinical case history of today and tomorrow. The first factor is "the patient as a 'case' and as a sick person". We are reminded that although chemotherapy may completely destroy the ætiological agent of an infection, the patient may also be destroyed—besides the microbe that must be destroyed, there is a patient who must be cured. The conclusion is that the clinical case history of the infectious patient in the next half-century will be more "biographic" and less purely therapeutic, and thus will reflect not only a great deal of laboratory data, but also the whole image of the patient. The second "feature" is referred to as the new concept of disease, including infection. "In the next half century it will be generally accepted that man is the result of three factors: his genetic origin, his environment, and his free will. Disease will be considered the process of a human being showing, at a given moment in his life, structural or functional alterations, complicated by the effect of psychosomatic interactions between his genetic and constitutional factors and adverse environmental factors." The third "feature" is the biological value of germs and their modification by means of antibiotics. We are told that the next half-century will confirm that it is important to learn to live with the germs around us and to accept the limitations imposed on the use of antibiotics by such an association. Antibiotic therapy, if indiscriminately used, may turn out to be a medicinal flood which temporarily cleans and heals, but ultimately destroys life itself by carrying off germs indispensable to that life. Possibly biochemical means will be found that will enable man to live at peace or in "armed truce" with his enemies of the microbe world. "The best way to overcome an enemy is to make him a friend." The fourth "feature" is what may happen to antibiotics in the next half-century. Martí-Ibáñez sees a double tendency as likely to develop in antibiotic therapy in the next half-century. Not only will new broad-spectrum antibiotics be capable of destroying almost any type of enemy bacteria, but other antibiotics will be developed which will be target-specific—having specific effects capable of destroying a single type of germ. "We shall boast of chemical atom bombs and magic biochemical arrows." Also antibiotic therapy will aim at more prophylactic and less therapeutic ends. It is thought that the sea will be explored as a source of antibiotics and also that the antibiotics existing in the human body may be investigated. Discussing his fifth feature, environment and the problem of the society of the future, Martí-Ibáñez states that because antibiotics have a greater effect in prolonging life than any other measure adopted, they will change the entire picture of our social structure and will force us to reorientate ourselves and our world with a view to our coping with new problems. "The situation will be the same as that facing a person who takes an express train instead of a local in order to save three minutes. . . . What will he do with the three minutes he has saved?" If we apply this in the field of geriatrics we see at once how important this "feature" is. The last of the "features" is headed "The Integration of Antibiotic Culture". Here reference is made to the educational value of the clinical case history and to the need for integrating the knowledge that we derive from it. It is at this point that Martí-Ibáñez expresses views which threaten the stability of the whole structure in which he obviously and rightly glories. He writes:

> The enormous importance of antibiotic therapy in the present-day clinical case history of an infectious patient indicates that a new branch of medicine has been created: antibiotic science. Antibiotic medicine has grown at such a rate that it already represents a doctrinal corpus of considerable scientific importance.

It is unfortunate that these words have been published and in such a context. We cannot imagine that Félix Martí-Ibáñez or his distinguished colleague Henry Welch would fail to see their dangerous application. Repeatedly throughout this book the unwise, the uncontrolled, use of antibiotics is deprecated. If we recognize the birth of a new science *sui generis*, antibiotic science, surely we run a grave risk of encouraging the very action that we would,

and do in fact, deplore. Basically the use of antibiotics is nothing more or less than a branch of therapeutics. Antibiotics should be subjected to the same careful scrutiny, the same selection, the same watchfulness as are necessary with any active therapeutic agent. If anything, the care should be greater than that displayed with many other agents, because their misuse is likely to lead to dire and far-reaching consequences. Already we have in the ranks of medical practitioners those who have been brought up, as it were, on the success of antibiotic therapy, who know not what it meant to have to do without these powerful weapons. Such persons will be ready to hail "antibiotic science" and to believe that they practise it when they show no discrimination in what they do. Persons of this kind would do well to study a book that has the scope and displays the general wisdom of the book under consideration. In Australia medical practitioners have received assistance in their use of antibiotics from the National Health and Medical Research Council. In August, 1953, we published at the request of the Council an "Antibiotic Worksheet". The worksheet is being revised and the revised edition will soon be published. On a previous occasion we referred to a "real danger that if we do not learn to value the therapeutic wealth that lies in the antibiotics, it may become like the fairy gold in the old tales, which turned to withered leaves in the hands of those who misused it". This danger is still with us, and it is perhaps greater than ever.

Current Comment.

SYNERGY IN CHEMOTHERAPY.

THE term "synergy" in chemotherapy is used to imply that the effect of two or more agents acting together is greater than the sum of their effects when acting separately. The sense of the term as used in chemotherapy is the same as "potentiation" in general pharmacology. In April, 1956, the section of comparative medicine of the Royal Society of Medicine had a discussion on synergy in chemotherapy[1] in which there were nine speakers. The first speaker, L. G. Goodwin, drew attention to the action of sulphonamides and folic acid antagonists in malaria and toxoplasmosis. He said that pyrimethamine was a folic acid antagonist. It was a diamino-pyrimidine derivative, and it probably interfered with the conversion of folic acid to folinic acid. Sulphonamides competed with p-aminobenzoate, which was necessary for the formation of folic acid. That was converted into folinic acid, which was necessary for the synthesis of cell nucleoproteins. Pyrimethamine was an effective malaria suppressant. It operated at the point in the life history of the parasite when folinic acid was most in demand—namely, when the nucleus was dividing. The drug had little effect on human nucleoprotein production, for folic acid and folinic acid absorbed from the gut could be used, whereas they could not in the malaria parasite. Sulphonamides prevented the formation of folic acid. When the two drugs were given together to an animal infected with malaria the combined effect was much greater than the sum of the effects of each drug separately, and very much smaller doses of each could be given to produce maximal effect. Pyrimethamine and other diamino pyrimidines, to a less extent, potentiated sulphonamides in the treatment of toxoplasmosis in mice. While the combination of drugs did not seem to have been used in the treatment of malaria in man, it had been used very successfully for toxoplasmic chorio-retinitis in children and for other toxoplasmic manifestations. That was more or less an accidental discovery and had as yet contributed very little of real significance in this direction in other diseases.

G. A. H. Buttle, the next speaker, believed that there would be very great contributions from biochemistry to practical chemotherapy as the enzymic make-up of micro-organisms was better known. He discussed briefly the possible production of substances synergistic to antibiotics which would break down the resistance to certain antibiotics developed by certain bacteria. He said that with no understanding of the underlying mechanisms, mixtures of drugs were being used successfully in the treatment of tuberculosis and endocarditis. He also discussed the problem of synergy in the treatment of malignant disease.

S. B. Kendall discussed the synergy between pyrimethamine and sulphonamides in the treatment of a disease in fowls caused by the parasite *Eimeria tenella*. The results of treatment were described as very satisfactory.

E. Boyland spoke on synergism in cancer therapy. Much of the discussion as reported is taken up with what might be called (although it is not so called by the speaker) negative synergism. It deals with the effect of absence of two hormones, such as sex and adrenal hormones, as the result of removal of the gonads and adrenals, on the growth of cancer. The discussion at present must be regarded as highly theoretical. Boyland's discussion also covered drugs used in the treatment of the leuchæmias—for example, 6-mercaptopurin (an antipurin drug) and amethopterin (an anti-folic compound) or ACTH or cortisone. The combinations are too toxic to be administered for long, but give promising results, and new and less toxic drugs will no doubt be made in the future.

R. Knox discussed "Drug Combinations in Treatment of Bacterial Infections". He asserted that theoretically there could be no such thing as synergism. If two drugs, A and B, acted on the same receptor in a susceptible cell, then their combined effect could only be additive. If they acted on different receptors, then no quantitative comparisons could legitimately be made. He spoke of "apparent" synergism and showed that it could be produced in several different ways. In some cases a synergistic effect could be simply explained on a chemical or physical basis or on combinations of the two; for example, as Albert had shown, iron and oxine (8-hydroxyquinoline) separately had little action on *Staphylococcus aureus*, but together they were rapidly bactericidal. The effect of penicillin was greatly increased by the use of "Benemid", which blocked the excretion of penicillin by the kidneys. Other examples were the combined action of isoniazid, streptomycin and PAS in tuberculosis. A mixture of penicillin and streptomycin had a bactericidal action on certain streptococci out of all proportion to the effect of the single drugs. In general, however, mixtures of different antibiotics had no particular value. In assessing the synergistic action of mixtures of drugs on bacteria it was difficult to distinguish between multiple effects on single bacterial cells and effects on different cells in a bacterial population.

A. Albert showed quantitatively how two different drugs acting on two different enzymes in a metabolic sequence could act when they were exhibited together. If the first enzyme was blocked by 90%, then only 10% of the partly completed factor reached the second enzyme. If the second drug blocked the second enzyme by 90%, then only 1% of the factor emerged. It might be asked why one should not simply use more of the first drug and block the first enzyme by 100%. That could not be done, for as the dose of the drug was increased, there was little extra response, and to reach 100% destruction very large doses of the drug would have to be used. That followed from the exponential effect of drugs on tissues. Another method of producing apparent synergistic action was to use as the second drug another drug which prevented the destruction in the body, the wastage, of the first drug; for example, the drug SKF525 potentiated such diverse drugs as hypnotics, analeptics and analgesics by blocking enzymes in the liver which destroyed those drugs.

[1] *Proc. Roy. Soc. Med.*, November, 1956.

Other speakers in the discussion covered the same ground as has been treated. There is no doubt that the finding of synergy or apparent synergy in pairs of drugs has a great future in therapy. An understanding of the metabolic processes taking place in bacteria, protozoa and other cells, the sequence of enzyme processes in metabolism and the differences between these and the processes in human cells are of first importance for developments of this kind. The discovery of drugs which are relatively non-toxic to man but enzyme-blocking in parasitic cells is another necessity. The rapid advances in biochemistry give great promise for the first of these requirements, as does the rapid increase in the production and assessment of new drugs by pharmacologists for the second. The tasks will not be easy, and there will be many disappointments. The discovery of antivitamins gave great hopes for the production of effective drugs for the treatment of disease, but the hopes have not been realized. For some years to come much of the advance will result from empirical observations.

THE EFFECTS OF DDT ON MAN.

MUCH has been made lately of the possibly dangerous effects of the intake of DDT from food which has been sprayed with this insecticide or the inhalation of DDT from fly sprays, and in particular of cumulative effects. Most of our knowledge of the effect of repeated doses of DDT have been obtained from the study of a variety of animals. Significant interspecies variation has been found in its toxicity. A final evaluation of the effects of DDT on man must be made on man himself. W. J. Hayes, junior, W. F. Durham and C. Cueto, junior,[1] working for the Council of Pharmacy and Chemistry of the American Medical Association, have made a considerable number of investigations on the effects of orally administered DDT on man over relatively long periods. Fifty-one selected volunteers from a prison, divided into six groups, received doses of 0, 3·5 and 35 milligrammes of DDT per man per day respectively for periods up to eighteen months. In groups 1, 2 and 3 it was given in pure form in capsules; in groups 4, 5 and 6 it was given as industrial DDT in milk. The items examined were weight, hæmoglobin level, red blood cell count, white cell count, percentage of polymorphonuclear leucocytes, heart rate under different conditions, systolic blood pressure and plasma cholinesterase level. None of these showed any changes which could be correlated with increased dosage of DDT. A big variety of neurological tests were carried out, but all participants gave normal results throughout. A variety of minor complaints were noticed, but none with any relation to the DDT administration.

The storage of DDT in man is proportional to dosage, but there is an unexplained difference in the storage of recrystallized and technical DDT. More of the pure material is stored. In the doses used in these tests human males achieve maximum storage of DDT in about a year and thereafter store no more despite continued intake. As no deleterious changes of any kind were noted, even with 35 milligrammes per man per day for over eighteen months, an amount about 200 times as much as the daily intake of DDT for the average man from his diet in the United States of America, it is obvious that there is a very large safety factor associated with DDT in the food.

AMINO ACIDS AND KWASHIORKOR.

THROUGHOUT the undeveloped areas of the world a condition of malnutrition in children with well-defined symptoms and signs is common. This condition has been called by various names, but kwashiorkor seems, at present, to be the most used. A considerable amount of evidence has been brought forward to show that the condition is due mainly if not entirely to deficiency of good quality proteins in the diet. It has been shown, particularly in Africa, that the provision of good quality protein foods such as milk or casein generally leads to rapid cure. These and other expensive proteins are not always available on grounds of cost, distribution, storage and local feeding customs. Locally obtained protein foods must then be used, but evidence has not been available to show whether the children need extra nitrogen or extra amino acids, or more of certain amino acids which may be present in good proportion in milk proteins but poor in some other, in particular plant proteins. It is also not yet clear whether extra vitamins and mineral salts are needed. J. D. L. Hansen, E. E. Howe and J. F. Brock,[1] working in South Africa, have treated a number of children suffering from kwashiorkor with mixtures of amino acids supplemented with adequate quantities of all the known vitamins. Two formulæ were used, the first with 18 amino acids in proportions corresponding to the composition of casein and the second with 11 amino acids, including all those found by Rose to be essential for man together with arginine, histidine and tyrosine in proportions generally considered necessary for infants. Glucose, salt mixture and vitamins were added to each. The first formula made up 59% of the dry feed, the second only 16%. Both formulæ were tested without the vitamin supplement. Of 33 patients only six gave no response.

The formula containing 18 amino acids and vitamins showed an initiation of cure rate of 56%, which agrees with that obtained with skimmed milk. Without the vitamins the result was 33%. In three cases in this group there was complete healing of the skin lesions. Good results were also obtained with the formula containing 11 amino acids with vitamins. Partial responses (that is, general improvement without complete cure or evidence of cure) were obtained with all mixtures with or without vitamins. The number of subjects treated is small, but the cures indicate that synthetic amino acids combined with water, minerals and glucose can initiate cure of kwashiorkor even in the absence of vitamins. The chief limiting nutrients in the diets of low protein content which produce kwashiorkor are the amino acids, and no unknown factor seems to be necessary. There may be, in any patient, results of vitamin deficiency superimposed on the kwashiorkor. The formula containing 11 amino acids produced consistently lower nitrogen retention values than that containing 18 amino acids. The quantitative and qualitative aspects of amino-acid requirements need now to be determined, together with quantity and availability of necessary amino acids in local or easily obtained protein foods.

"REFRESHER COURSE FOR GENERAL PRACTITIONERS."[2]

FOR some years now the *British Medical Journal* has printed a popular series of specially commissioned articles under the general title "Refresher Course for General Practitioners". Two collections of these articles have already been published in book form and found a ready reception. The third collection,[2] which is now available, consists of articles which appeared in the period from April, 1952, to September, 1953. These have been completely revised, and there need be no fear that they are out of date now just because they were published in their original form several years ago. They number 60 in all, with titles ranging widely over the whole field of medicine and surgery, and with authors whose names are, in many cases, household words. These articles should certainly be acceptable and useful to the general practitioners for whom they were originally written, as well as to others who like to keep in touch with everyday medical ideas outside their own immediate fields.

[1] *J.A.M.A.*, October 27, 1956.

[1] *Lancet*, November 3, 1956.

[2] "Refresher Course for General Practitioners"; specially commissioned articles from the *British Medical Journal*; Third Collection, April, 1952, to September, 1953 (fully revised); 1956. London: British Medical Association. 8¼" × 5¼", pp. 566, with illustrations. Price: 25s.

Abstracts from Medical Literature.

DERMATOLOGY.

Sabra Dermatitis.

J. SHANON AND F. SAGHER (*Arch. Dermat.*, September, 1956) state that sabra dermatitis (an occupational dermatitis due to handling the prickly pear or sabra) has a striking similarity to scabies. It is found that the covered parts of the body are secondarily affected by self-transfer or transfer to others of broken off bristles (glochidia) from the primarily affected sites. The diagnosis is made by palpating the bristles over the lesions, and is helped by the patient's history of handling the fruit. The authors discuss therapeutic and prophylactic measures. They state that the development of the dermatitis was studied clinically and histologically after experimental production of the disease. Treatment is directed to extracting the glochidia, but owing to the barbs, which point to the base of the bristle, it is practically impossible to withdraw them completely. Some patients use hot lemon juice with sugar or wax and spread the material while hot over the affected parts, removing it quickly once the wax becomes set. After the edges of the barbs are planed, the area affected is treated with soothing ointments. Peeling ointments may be used in order to bring about quicker desquamation.

Necrobiosis Lipoidica.

J. G. SMITH (*Arch. Dermat.*, September, 1956) states that the concept of *necrobiosis lipoidica* has been a changing one. The disease is probably not a variant of *granuloma annulare*. It was found to be associated with *diabetes mellitus* in only one-fourth of the cases in a series observed at hospital. When *diabetes mellitus* is associated with *necrobiosis lipoidica*, the *diabetes mellitus* usually develops first. The disease occurs in all age groups except infancy and early childhood. Lesions are not frequently seen in locations other than on the lower extremities. The ætiology of *necrobiosis lipoidica* is obscure, but the pathological changes are probably secondary to vascular abnormalities. Surgical excision, with grafting if necessary to close large defects, is the most effective therapy available at present. Intralesional injection of hydrocortisone deserves further trial.

Relapse in Discoid Lupus Erythematosus Treated with Anti-Malarial Drugs.

J. ROGERS AND O. A. FINN (*Arch. Dermat.*, October, 1956) have reviewed their results in the treatment of chronic discoid *lupus erythematosus* with quinacrine and chloroquine, paying special attention to recurrence of lesions after therapy had been discontinued. When quinacrine was given, the majority of patients received 0·1 gramme three times daily for one month, then 0·1 gramme twice daily for a month, and finally 0·1 gramme daily for the remainder of the treatment period. Chloroquine was used in doses of 0·25 gramme on week days only, once a day; some patients received 0·25 gramme twice daily for a short period. Of 156 patients with chronic discoid *lupus erythematosus* who were treated with synthetic anti-malarial drugs, 55 were completely cleared of lesions. Of the 55, 41 have been followed for two years, and a high relapse rate was observed in that only eight have remained clear of lesions. The authors have found that this high relapse rate does not minimize the usefulness of quinacrine and chloroquine, because further therapy with the same drug or substitution of one drug for the other usually produces the desired therapeutic effect. They state that this interchanging of the drugs or even the substitution of a different proprietary preparation of the same drug may eliminate undesirable side effects. The fact that relapse occurs within one year suggests that this type of therapy is not curative, but merely suppresses the visible manifestations of the disease. For this reason the authors prefer to keep their patients on a small maintenance dose for several months after apparent cure and insist on surveillance for at least a year after treatment has been discontinued.

Fludrocortisone Acetate for Allergic Dermatitis.

H. VOLLMER (*Arch. Dermat.*, September, 1956) states that 28 children and three adults suffering from allergic dermatitis were treated topically with fludrocortisone lotion and ointment, with control according to the simultaneous paired comparison method. Five of these 31 patients were unequivocally improved, 10 were unimproved, and 16 showed equal or almost equal improvement of the treated and the controlled side. The equal or almost equal improvement on both sides in these 16 patients is ascribed to percutaneous absorption of the topically applied hormone. The author comments that if this explanation is correct, about two-thirds of the patients were improved. He states that his failure to demonstrate undesirable side-effects does not prove their absence.

Prednisolone Ointment and Hydrocortisone Ointment.

C. C. SMITH (*Arch. Dermat.*, October, 1956) reports that 40 patients suffering from various skin diseases were treated with 0·5% and 0·25% prednisolone ointment. A control study was carried out with 1% hydrocortisone ointment, according to the method of simultaneous symmetrical paired comparison. Prednisolone ointment was less effective than hydrocortisone in 23, equally effective in 13 and more effective in four of the 40 patients. The results of this limited study indicate that although 0·5% prednisolone ointment is of value in a similar group of skin diseases, it is less effective than 1% hydrocortisone ointment.

Planing of the Skin.

A. A. SMALL (*Canad. M.A.J.*, August 15, 1956) describes the use of Kurtin's surgical plane in the treatment of scars (such as the scars of *acne vulgaris*) of the face. The planer is a small wire brush which revolves at a speed of 12,000 revolutions per minute. An area of skin is frozen. The planer is then moved across it in a series of rapid sweeps, so that skin to the required depth is removed. The author states that usually both cheeks and the forehead can be treated at one sitting. Bleeding occurs as warmth returns to the part. The raw surface becomes covered with crusts, under which healing occurs between the tenth and fourteenth days. Post-operative erythema disappears in from four to ten weeks, but sometimes it remains for many weeks. Other possible sequelæ are abnormal pigmentation, milia, eczema, pyoderma and keloid. The author does not claim the procedure as the perfect treatment, but declares that it is the best so far devised for correcting the post-acne scar as well as many other superficial skin lesions.

Hydrocortisone in the Treatment of Localized Myxœdema.

R. R. FORSEY AND A. W. ANHALT (*Arch. Dermat.*, October, 1956) state that the local injection of hydrocortisone into the lesions of localized pretibial myxœdema appears to be of definite value. The addition of hyaluronidase may be necessary to achieve a therapeutic effect in some cases. In the first of two cases reported by the authors the patient was treated with local injections of hydrocortisone, 25 milligrammes once or twice a week, with remarkable results. In the second case the patient did not respond until the addition of 500 viscosity units of hyaluronidase with 25 milligrammes of hydrocortisone, injected locally into the lesions. In this second case X-ray treatment of the pituitary had no effect on exophthalmos or localized pretibial myxœdema.

UROLOGY.

Solitary Cyst and Cancer of the Kidney.

B. G. CLARKE, W. J. GOADE, H. L. RUDY AND L. ROCKWOOD (*J. Urol.*, June, 1956) consider the difficulties of differential diagnosis between solitary cyst and renal carcinoma. They state that in a study of the records and X-ray films of 36 patients with proved renal carcinoma and of 47 with solitary renal cysts, no absolute pyelographic or aortographic criteria for diagnosis could be found. However, the diagnosis of cancer is favoured by (i) a history of pain, hæmaturia and fever, (ii) the finding of anæmia or a palpable mass, and (iii) radiographic observation of intrarenal calcification, apparent calyceal amputation or obliteration of the psoas outline. Patients with a renal mass, suggestive radiologically of cyst, nevertheless deserve exploration to prevent its enlargement with subsequent deleterious pressure on the kidney, or because of the possible development of neoplasm within it.

Disseminated Fatal Candidiasis.

J. B. DAVIS, J. R. WHITAKER, L. K. DING AND J. H. KIEFER (*J. Urol.*, June, 1956) state that a great deal of attention has been focussed on the increasing incidence of monilial infections since the use of antibiotic therapy. *Candida*

albicans (monilia) is a common inhabitant of the oral, intestinal and respiratory tracts, as well as the genitalia and skin, of normal, healthy persons. It is not yet clear by what exact mechanism this organism becomes of importance as a cause of severe secondary infection. However, it is believed that suppression of the bacterial flow coexisting with the presence of *Candida albicans* is the probable cause of the monilial overgrowth. In many cases, heavy antibiotic therapy has preceded most of the widespread moniliasis. The authors report a case of fatal disseminated candidiasis following the routine use of penicillin and streptomycin after Cæsarean section. The organism was recovered from the blood, as well as the heart, liver, lungs, kidneys and other organs. At the time of this report no effective therapy was known. The authors consider that the use of routine prophylactic antibiotic therapy should be discontinued.

Sterilization of Cystoscopes.

J. K. LATTIMER, M. KENNEY, G. ROSENBLATT AND M. GOLDMAN (*J. Urol.*, August, 1956) report that recent research has shown that the conventional methods most widely used for the attempted sterilization of cystoscopes fail to kill the bacillus of tuberculosis within one hour. Patients subsequently subjected to passage of the same instrument may be infected, especially if tuberculosis was not suspected at the earlier examination. Ideal solutions for chemical sterilization of cystoscopes should fulfil two requirements: (i) no harm should come to the cement around lenses and light bulbs, and (ii) the solution should kill all organisms, including the bacillus of tuberculosis, in less than one hour, so that the instrument can be used again after that period. Alcohol and phenol are good antiseptics, but damaging to lens cement. In the experiments six sterile cystoscopes were heavily contaminated with a suspension of fresh culture of tubercle bacilli, and then immersed in the solution to be tested for various periods of time. The instruments were then thoroughly rinsed with running water and flushed with a little normal saline; the latter solution was then transferred to a culture medium and observed for eight weeks. The ineffectual solutions (as regards tubercle bacilli) included very strong oxycyanide of mercury, quaternary ammonium compounds, iodine and chlorine releasing agents and formalin vapour cabinets. The most effective agent was a 10% solution of formalin in water, acting for merely five minutes; its use is best preceded by a thorough washing of all channels of the instrument in warm, soapy water. Before the instrument is passed on a patient, all traces of the formalin should be washed away in running water, and the instrument laid in oxycyanide solution.

Contracture of Vesical Orifice in Women.

D. M. DAVIS (*J. Urol.*, September, 1956) describes contracture of the internal meatus of the urethra in women as a neglected lesion. He considers it the commonest cause of recurrent bladder infection in women, and states that it should be dealt with adequately. He analyses 169 of his own cases, in all of which answers have been received to a *questionnaire* sent out. He states that the symptoms are often frequency, hesitancy, urgency, strained restricted outflow and pain on micturition. In other cases the picture is more confusing, with suprapubic pain, renal pain, digestive disturbances and recurrent bladder infections. Even after improvement with antibiotics, there is a definite tendency to recurrence. Endoscopic examination may show no definite changes in the bladder wall, such as sacculation, but the view along the urethra with a panendoscope will disclose a rather contracted internal meatus, and in the proximal part of the urethra congested and œdematous mucosa, and even polypus formation may be seen. It is important, of course, to rule out primary upper tract disease first of all. Systematic and generous urethral dilatation is curative in many cases, but in others electrocoagulation or even resection of the mucosal lesions is necessary. In the most resistant cases endoscopic resection of the whole circumference of the internal meatus is necessary for cure. With sound dilatation, after size 30F has been reached, one must go on to 40F or even 45F with the Kollmann dilator under effective local analgesia.

Prognosis in Advanced Prostatic Carcinoma.

E. J. GANEM (*J. Urol.*, August, 1956) compare two groups of patients with advanced prostatic carcinoma and metastasis. In one group, in spite of the presence of metastases, there was no elevation of the serum acid phosphatase level; 23% of the 13 patients in this group survived four years or more, and 46% survived two years or more. In the other group (28 patients) metastases were also present, but the serum acid phosphatase level was raised; only 14% survived four years or longer, and 35% two years or longer. It is therefore obvious that a raised serum acid phosphatase level renders the prognosis more grave. Further studies have shown that 73% of patients with a raised serum acid phosphatase level but no demonstrable metastases will ultimately develop bone or lymph node metastases, four-fifths of them within a twenty-four-month period after orchidectomy and stilbœstrol therapy.

"Furadantin" in Experimental Urinary Tract Infection.

G. H. MILLER, W. H. CHAPMAN, L. SEIBUTIS AND C. W. VERMEULEN (*J. Urol.*, July, 1956) describe the results of treating rats suffering from induced vesical infection due to (*a*) *Proteus mirabilis*, (*b*) *Escherichia coli*, and (*c*) *Escherichia intermedium*. They state that a standard zinc disc contaminated with the organism was inserted into the bladder of each rat. With this method there could be no spontaneous elimination of the infection, and furthermore the disc permitted observation on the process of stone formation as influenced by infection and its treatment. *Proteus mirabilis* was the most virulent of the three germs; most of the untreated rats with this infection died before completion of the experiment. Those that survived usually had bilateral renal destruction. Treatment with "Furadantin" changed the picture strikingly, provided the dose was high enough. "Furadantin" was effective in suppressing all three types of infection when the drug was given without interruption up to the time of sacrifice. It should be remembered that an infected foreign body was present all the time. The most significant conclusion to be drawn from this study is the value of prolonged treatment. Treatment for thirty days increased the rate of cure over a ten-day course from 10% to 65% in cases of Proteus infection, from 29% to 84% with *E. coli* and from 53% to 65% with *E. intermedium*. With regard to the relation of infection to stone formation it was found that Proteus greatly augmented the tendency, probably because of its capacity to split urea. On the other hand, with the Escherichia group, stone formation was inhibited, by what mechanism was not known.

Large Benign Renal Tumours.

D. G. FOSTER (*J. Urol.*, September, 1956) states that while most tumours of the kidney are malignant, it is well to remember that benign tumours can occur, and may be very large. He reports the case of an eight-year-old African Negro boy with an enormous renal fibroma. The patient's general condition was deteriorating, but there were no urinary tract symptoms. The tumour weighed 43 pounds. The patient, after the tumour was removed, weighed only 57 pounds. So far as could be ascertained from the literature, this case was the one hundred and thirty-sixth case of large, benign renal tumour to be reported.

SURGERY.

Substitution of the Ureter by Ileum.

W. NOONEN AND M. AUSEMS (*Arch. chir. neerl.*, Volume 8, Fasc. 2, 1956) describe five cases of substitution of the ureter by a segment of ileum. They state that, according to various authors, reabsorption of urinary constituents is not frequent in cases in which the ileum is used as a urine reservoir. In their experience, however, they found that their patients must regularly be tested for hyperchlorœmia and a decrease in alkali reserve. They state that mild shifts respond favourably to a diet of low salt content and ingestion of bicarbonate of sodium.

The Nine Tumours of the Bile Ducts.

G. L. VAN DER ZWAAG (*Arch. chir. neerl.*, Volume 8, Fasc. 2, 1956) describes a patient who had persistence of biliary colic and jaundice, following cholecystectomy. Further laparotomy was carried out, and an operative cholangiogram was prepared during the operation. This showed a filling defect in the papilla of Vater. The bile duct was explored, and a benign papilloma localized to the papilla of Vater was found. The author thinks that these tumours will be found in increasing frequency because of the increasing use of operative cholangiography.

British Medical Association News.

SCIENTIFIC.

A MEETING of the New South Wales Branch of the British Medical Association was held on October 27, 1956, at the Wollongong District Hospital, Wollongong.

Chronic Asthma.

DR. D. M. ROSS read a paper entitled "The Interval Management of Asthma" (see page 130).

MISS JEAN GARDINER, a physiotherapist, discussed the treatment of asthmatics by physiotherapy. She said that any of those present who had heard talks on the subject or had seen demonstrations might think that she was leaving out a great deal. However, the more practical experience she gained in the field of chest physiotherapy, the more it appeared that any real success was obtained only if the patient carried out a daily home routine, sometimes more than once a day. It stood to reason that the patient's cooperation and interest would be maintained only if the routine was very short. To that end, by trial and error and by critical analysis of each exercise, she had reduced the routine to four basic exercises. Most of the old order had been discarded, some because it seemed actually detrimental, some because it was not actively beneficial. The routine had to be one that was easy to carry out daily, and also simple, easy and quick in emergency. It could be taught in three to six lessons. Fortunately one action fulfilled all the basic requirements—namely, the long breath out with an open mouth, combined with relaxation, coughs and nose blows. Miss Gardiner said that classes for asthmatics were excellent; but the more she saw of what did and what did not bring relief to the asthmatic, the more she was inclined to think that only to a minority of children were classes absolutely necessary. When classes were used, they should be secondary to the short basic daily home routine.

Miss Gardiner went on to say that there were four basic aspects of dysfunction occurring in asthmatics, the mechanical part of which could be relieved by physiotherapy. To counter the dysfunction, one aimed at (i) relaxation, (ii) improving the expiratory phase of respiration, (iii) mobilizing and toning up the diaphragm and (iv) clearing the whole of the respiratory tract of excess secretion. Discussing relaxation, Miss Gardiner said that to go up to someone in an attack of asthma and say to him "you must try to relax" only added to his already panicky state. He was being presented with one more thing that he could not do. The very effort of trying to relax produced greater tension. It appeared necessary to help the patient to relax in a negative way. She had noticed that as she worried over her inability to help such a patient, her own shoulders tensed; if she consciously dropped them, a feeling of general relaxation followed. However ill a person might be, he could usually follow the order "drop your shoulders", and he was thus helped to relax. The method such patients needed in emergency was the method that they were taught in their daily routine.

Referring next to the improving of the expiratory phase of respiration, Miss Gardiner said that because of the asthmatic's difficulty in expiration he needed to learn the way of least resistance. That was breathing out for as long as he comfortably could with the mouth open. As he practised, the ease and duration of expiration increased. He breathed out quietly to help relax the bronchial tubes. Inspiration was not mentioned more than was absolutely necessary, as asthmatics, because of their habitual upper chest breathing, would immediately swing to using their accessory muscles and the upper part of the chest when they were consciously thinking of inspiration. They breathed out well, then relaxed. The long breath out was particularly exaggerated during the exercises, to counter the asthmatic's swing of the pendulum the other way.

With regard to mobilizing and toning up the diaphragm, Miss Gardiner said that most asthmatics with the habit of upper chest breathing had a lazy, static diaphragm, or even paradoxical movement of the diaphragm. By the patient's breathing out for as long as possible, the diaphragm was forced up to its maximum point of relaxation. On the inspiratory rebound, the muscle fibres in the diaphragm contracted. By the repetition of the long expiration, the diaphragm was stimulated and toned up and worked normally as it should for efficient breathing. The diaphragm was also relaxed by pressure and gravity in the postural drainage position of lying prone with three or four pillows under the hips, or over a pillow on an upturned chair. Miss Gardiner then discussed the clearing of excess secretion from the respiratory tract. She said that she had been taught not to carry out postural drainage in the treatment of an asthmatic. However, it soon became obvious in practical experience that the point at which the back of an asthmatic attack was broken was when the patient was able to cough up some of the excess secretion. Then the relief commenced, even if the end was not yet in sight. Some asthmatics were more "wet" than others. Some were perfectly "dry" between attacks. Many became "moist" just before an attack. Therefore it seemed practical as a daily preventive measure to give a postural drainage exercise in a mild comfortable position, using the long breath out to produce the tussive squeeze. In any case, it was still a good breathing exercise and a relaxing position, general and diaphragmatic. It had been obvious that during the breathing exercises secretions in the nose were loosened, and that sinus trouble in children had cleared up surprisingly. Therefore a routine nose blow had been added.

Miss Gardiner then demonstrated and described the four basic exercises. She said that before breakfast the patient carried out relaxation and postural drainage over a pillow on an upturned chair, or prone on pillows on the bed. He carried out 36 long breaths out with the mouth open, and a cough and nose blow after every six. It was not always practical to give that exercise to all asthmatics; it took seven to ten minutes to perform. After school or before dinner three exercises were performed. The first was diaphragmatic breathing with long, quiet expirations with the mouth open. This was carried out 12 times, with a cough and nose blow after each six. The patient should breathe in through the nose when possible. The second exercise was bilateral basal breathing, carried out with the same details, and the third was posterior basal breathing, also with the same details. Miss Gardiner said that unilateral basal breathing might be taught if necessary. The use of the patient's own hands on the required area was better than the use of webbing, at least at first.

DR. N. J. D. POWRIE said he was pleased to see that Dr. Ross had changed his views slightly. Dr. Ross had taught him the psychogenic basis for the treatment of asthma; he himself had followed it out, and had found it very successful. He had been shattered by hearing the views of Dr. Richard Kerne in 1955. Dr. Ross's idea was that at least 30% of cases of asthma had a psychogenic origin. From his experience, Dr. Powrie believed that 100% of asthmatics suffered from some allergy, and at least 99% from some psychogenic aggravating factor. Particularly in relation to children, he would like to see a change in the attitude toward asthma. He had always avoided making reference to asthma. He recognized that the patients were asthmatics, but the word caused such fear that he did not use it to the parents or to any friend of an affected child. No matter what the basis was, the full-blown asthmatic attack engendered such a fear in the parents that the child would become a chronic asthmatic that they tended to become over-possessive or over-protective. That attitude, in his opinion, was a big factor in changing the condition from a purely allergic problem to an allergic *plus* psychosomatic illness. Dr. Powrie thought that the tactics should be changed; the allergic problem should be stressed and treated whilst the psychogenic factors were recognized. He always tried to explain to the parents that the child had not developed asthma yet, but that if they were not careful to avoid the "nervous" factor he would grow into it. He had seen some dramatic changes in children when the parents accepted this attitude. Dr. Powrie said that he had been interested in Miss Gardiner's breathing exercises; he had previously known only the "dozens and dozens of exercises every day" routine, which was too long. The simpler the exercises could be kept, the better. His attitude had been to get the children into the cricket field, or into the water, swimming. The best exercise for them was to run so hard that they got out of breath. Dr. Powrie asked whether it would be possible to have printed copies of Miss Gardiner's exercises; they would be very useful.

DR. J. B. STREET asked Dr. Ross what he specifically said to the patients who had personality defects.

Dr. Ross, in reply, said that there was little anyone could do about personality defect. It was important not to become impatient with such people. After all, they had inherited a faulty gene, and should be regarded in much the same way as mental defectives. The only thing to do was to encourage them, and to manipulate the environment so that they could cope with it. It was important not to regard patients labouring under that disability as if they were suffering from a true psychoneurosis.

DR. M. J. SAINSBURY asked whether anything could be done by way of medical hypnosis for patients with asthma. He had had one patient with some type of personality defect and asthma. Dr. Sainsbury, having read Dr. Alexander Cannon's works on hypnosis, had tried it. That patient was readily placed in a state of light hypnosis on several occasions, and it was suggested to him that he was confident in meeting people, and that he was quite relaxed. The patient, who had previously found it difficult to mix with people and to sleep, improved in both those points and felt much better in himself, though his rhinitis and asthma were not relieved.

Dr. Ross, in reply, said that he did not employ hypnosis, but it could be of some use especially for hysteroid personalities. The cardinal feature of hysteria was dissociation. After hypnosis a patient might be relieved of asthma, but might be likely to substitute some other "flight into invalidity".

DR. B. A. COOK said that he had gathered from Dr. Kerne's lecture in Sydney that he placed a great deal of emphasis on allergens. Kerne mentioned an occurrence in a block of flats in New York. Asthmatic patients had been treated by a made vaccine and had been freed from asthma; they moved down two floors and the asthma returned. It was not until a new house dust vaccine was made that they obtained any relief. Dr. Cook said that he had been using Bencard's vaccine, and it was very violent. He wondered whether there was anything specific in such vaccines, and whether it was worth while having a vaccine made from the patient's house dust.

Dr. Ross, in reply, said that there was no place for stock house dust extract in the treatment of asthma; the patient's own house dust should be made into an extract. The Commonwealth Serum Laboratories would do it. He did not think that bacterial allergens were specific allergens. In bacterial allergy, if the clinician used the Commonwealth Serum Laboratories coryza vaccine in A, B and C strength, he would certainly push his patient into chronic asthma. He should stop at A strength, and a dose of about 0·5 cubic centimetre. Dr. Ross said that if he used Parke, Davis's vaccine he never gave more than 0·2 or 0·3 cubic centimetre, repeated.

DR. K. S. JONES said that one of the factors in asthma that had not been mentioned was compensability, and eligibility for pensions. Dr. Ross had given a lead, in that classification should be made in diseases as a basis for a form of treatment; but Dr. Jones wondered whether affected people were going to be damaged if it was agreed that their (asthmatic) condition was compensable (or pensionable), or at least that they were unfit for military or other similar duty.

Dr. Ross, in reply, said that it depended upon the physical examination. When asthma stemmed from bacterial allergy, there was always a possibility of chronic invalidism associated with chronic bronchitis and emphysema. Compensation should be assessed according to the structural damage. Those changes were largely irreversible.

DR. F. W. WALTON referred to the interval treatment of asthma with antispasmodics; he asked whether it was worth while keeping on with ephedrine and phenobarbital for months in small doses. He was thinking of a child of two years who had had asthma for some time. There was a psychological background; the child might be fixated to the mother and father, as there were no younger siblings. But if the child was going to suffer continual attacks without ephedrine, Dr. Walton wondered how one was to protect him. Was the child old enough to be given other interests or to be induced to stand on his own feet?

Dr. Ross, in reply, said that he could see a real place for the treatment Dr. Walton had described. There was nothing wrong with giving an asthmatic a little ephedrine and a little phenobarbitone as interval management. Often, unfortunately, on the other hand, the doctor had a pet prescription which finished with *"Mist. Lobeliae Co."*. That mixture tended to render the sputum more viscid and less readily expectorated.

DR. S. I. PUGH asked whether, in the case of asthmatics who had had the condition for many years, there was a greater preponderance of phenomena related to the *scalenus anterior* syndrome. He asked the question because of the known fact that asthmatics used the extrinsic muscles so much.

Dr. Ross said that he did not know.

Miss Gardiner said that she had not noticed it particularly.

DR. C. S. MCLACHLAN said that he still did not fully understand what Dr. Ross did when he was confronted with patients having personality defects. He himself, while feeling very sorry for them, still was annoyed by them, and reverted to phenobarbital or "Largactil" or some other sedative. He asked what Dr. Ross did when such patients came for their fortnightly visit.

Dr. Thomson, from the chair, said that he had been interested in Dr. Ross's address, because twenty-seven years previously, from 1929 to 1931 one of his duties had been to run a large allergy clinic. Apparently the only foolish thing he had done was to stop running it. As long ago as that they had been awake to the part the psyche played. As long ago as that they had believed that small doses should be used as the basis for injection, and that treatment should go on for twelve months. When any form of antigenic therapy was being used, small doses should be given for a long time. Many people had been given, and still were being given, a sort of quick-action therapy with injections for three months; they did no good at all. It used to be believed that an autogenous vaccine should be used, because it was better than a stock bacterial vaccine. It was now known that that was not true. Parke, Davis's catarrhal vaccine was a stock vaccine, but it worked very well. Yet when pollens were involved, it was necessary to get them from the area in which the patient lived. Bencard solutions had been discarded about twenty years previously as being too dangerous for the patient. He had seen many patients recover after injections of Armour's peptone, which was non-specific therapy. Dr. Thomson wondered what was the modern thought on antigenic therapy. Was it specific or non-specific?

Dr. Ross, in reply, said that Dr. Thomson had shown them what they did not know. Nobody could answer his question except to say that the phenomena he had mentioned were true. That meant that there was much work to be done in allergy. It was a sort of Cinderella. Workers could not be forced into an allergy clinic. It was very unfortunate, because there was such a lot of work to be done. Anybody who had an original brain, and who was willing to spend some time thinking about the problem in ordinary practice, might well find the answer to the questions inside twelve months.

Dr. Thomson, from the chair, thanked Dr. Ross for his paper and Miss Gardiner for her paper and her demonstration.

Gastro-Intestinal Hæmorrhage.

DR. A. W. MORROW read a paper entitled "Gastro-Intestinal Hæmorrhage" (see page 132).

DR. J. B. STREET asked Dr. Morrow how soon after the admission to hospital of a patient who was having a hæmorrhage, active diagnostic steps were taken to show where the bleeding was coming from.

Dr. Morrow, in reply, said that as a general rule full investigation was undertaken within a fortnight; but if they were very worried about the patient, it had been done within three days. There were certain catches that applied to the investigation of a patient who had just recently had a hæmorrhage, although Dr. Colwell in one case had carried out an X-ray examination while hæmorrhage was still occurring, and had clearly demonstrated a chronic ulcer high up on the lesser curvature. However, to do that required long experience on the part of the radiologist, because the presence of blood clot in the stomach was likely to lead to a wrong diagnosis. Dr. Morrow cited the case of a doctor who insisted on undergoing an X-ray examination early, and the diagnosis was given as carcinoma of the stomach. Another X-ray examination ten days later revealed that the lesion was simply a duodenal ulcer; the carcinoma had been nothing but the blood clot. Dr. Colwell was happy to carry out the examination in four or five days after the hæmorrhage; but they preferred to leave it to within a fortnight, because it was a strain on the patient. Dr. Morrow went on to say that they were prepared to carry out a gastroscopic examination as soon as they thought that the bleeding had stopped. It was no help to do it while bleeding was still occurring. Gastroscopic examination had been extremely helpful in the multiple erosion group, and was carried out within twenty-four hours.

DR. N. J. D. POWRIE asked Dr. Morrow what was the attitude towards the patient who was admitted to hospital for the second time with hæmorrhage; would Dr. Morrow be more likely to recommend operation in that case? Dr. Powrie also asked Dr. Morrow what was the place of surgery in the interval management—what were the criteria for operation after a hæmatemesis.

Dr. Morrow, in reply, said that the problem had worried them. Because a patient had had a hæmorrhage on one

occasion, it did not necessarily mean that when his ulcer flared up next time he would have another hæmorrhage, or even on the third occasion. What had concerned them most was first of all the age of the patient. If he was aged under forty-five years, they had tended if possible to avoid operation, because a man with half a stomach was not so good as a man with a whole stomach. On the other hand, if the patient was in the forty to forty-five years age group or a little older, and particularly if he had any evidence at all of hypertension, then if he had hæmorrhage on one or two occasions they thought that operation should be recommended. In reply to Dr. Powrie's second question, Dr. Morrow said that after one hæmorrhage they were prepared to watch the patient; they did not consider that one hæmorrhage was an indication for operation. What they had not done, and perhaps should have done, was to follow up those patients whom they knew to have chronic ulcers, and whom they had treated conservatively, to find out how many returned to hospital with hæmorrhages and how many suffered from persistent pain and came back to the hospital for operation.

DR. B. A. COOK asked a question about sedation. He said that he had been surprised to hear Dr. Morrow say that he relied on phenobarbitone, in a dosage of three grains, presumably given intramuscularly. Dr. Cook said that he had never been able to satisfy himself that phenobarbitone was much good, and it was very slow. As some of the patients were very agitated, it did not seem very effective. In his ignorance he had always given morphine; perhaps it was wrong. When heroin was available, he thought that that was better. Dr. Cook asked Dr. Morrow to give a few points on the use of drugs.

Dr. Morrow, in reply, said that if the patient was very agitated, and the pain was very severe, then there was no doubt that the only really effective drug was morphine. If the patient was not particularly agitated, he preferred soluble phenobarbitone. He had found that it worked fairly quickly when given by intramuscular injection, and did not induce vomiting as morphine did in some patients. Sometimes it was given with "Largactil". He did not think that pethidine was nearly so effective as morphine. However, he was dealing primarily with patients who had been admitted to hospital, rather than with the management of patients in the home. Patients who had been admitted to hospital had mostly settled down; it was known that admission to hospital was a big factor in giving the patient confidence straight away. There was always the risk of vomiting with morphine—about 10% of patients vomited. However, morphine was undoubtedly the only drug that really allayed fear.

DR. T. Y. NELSON said that he would like to mention a few of the causes of hæmatemesis and melæna that had not come into Dr. Morrow's series. The problem under discussion was very important in children. In adults, there was a good 75% chance that the underlying condition was a peptic ulcer. In children that was a rarity, and there were a number of rarities in children that could be added to Dr. Morrow's list. Examples in children could be given from every one of Dr. Morrow's groups, but they were all uncommon. With the exception of bleeding from a rectal polypus, it was perhaps not generally known that hæmorrhage from a duodenal ulcer could occur in a young child. One of the most catastrophic hæmorrhages that he had seen was eventually shown to be from a duodenal ulcer. Dr. Nelson asked Dr. Morrow whether hæmorrhage from multiple small erosions, his third group, occurred in children; Dr. Nelson had not seen an example of it. He thought that it was probably rarer than a duodenal ulcer. Hæmorrhage from a hiatus hernia occurred in childhood, and neoplasm was probably commoner in children than in adults; and when one could not find an obvious cause for the common bleeding that occurred, the usual cause was a polypus higher up in the intestine than could be found by sigmoidoscopic examination. A practical point in that connexion was that when the surgeon was forced to perform a laparotomy, to try to establish the source of the hæmorrhage, as often happened, if he should find a polypus somewhere in the ileum, he should not be satisfied with that, but should examine the whole of the alimentary tract. Dr. Nelson had been in the unfortunate position of having excised a polypus and thought the child was cured, but the child returned three months later with another hæmorrhage from another polypus higher up in the small intestine. Two cases had impressed him as rarities. One was diagnosed as portal hypertension, and at operation it was found that the hæmorrhage came from a venous anomaly, a real telangiectasis of the region. There was a similar case in which the anomaly was in the sigmoid colon. It produced a massive hæmorrhage, and the cause could be determined only at laparotomy. The third type of case in which the diagnosis could be made only by laparotomy was hæmorrhage from a Meckel's diverticulum. That was probably a common cause in young children.

Dr. Morrow, in reply, said that he had examined practically no children gastroscopically; they avoided that procedure in young children because of its danger. He could not answer Dr. Nelson's question about the occurrence of multiple small erosions. Referring to what Dr. Nelson had said about other causes of hæmorrhage from the large bowel, the lower part of the small bowel and the rest of the alimentary canal, Dr. Morrow said that Dr. Thomson would remember a case of hæmorrhage from a Meckel's diverticulum which had occurred about four weeks previously. The patient's hæmoglobin value was down to three grammes *per centum* on his admission to hospital. The hæmorrhage was found to be due to ectopic gastric mucosa with the diverticulum. With regard to hæmorrhage from telangiectasia, Dr. Morrow said that strangely enough in the series quoted they had not had one case. They had had several in the gastroscopic clinic before and since.

DR. E. L. MILGROVE asked Dr. Morrow two questions. He said that Wollongong was a highly industrialized area, and he asked Dr. Morrow's opinion on the effect of shift work on gastro-duodenal lesions, and also his opinion on the effect of ordinary physical work.

Dr. Morrow, in reply, said that the effect of shift work was adverse on peptic ulceration. He did not think that diet made a great deal of difference; it was a matter, not of what one ate, but of how one ate it, and one of the important factors in eating was regularity. They had noticed in their own particular follow-up series that of the honest, good type of workmen who had ulcers, the most difficult to handle were those who did shift work—they had one shift for one month and another for the next. It was particularly noticeable in tramway people. With regard to physical work, Dr. Morrow said that the only way in which it would play any part was in the production of fatigue. A patient who had an ulcer was usually prone to grow fatigued more quickly than the person without. There was no doubt that fatigue was an important factor in the aggravation of an ulcer, and ulcer patients did not stand up well to hard work.

DR. W. J. PULLEN spoke from the surgeon's point of view. He said that Dr. Morrow's so-called small series of 600 cases was really a very large series. From his own relatively limited experience, he had always been under the impression that at operation on patients with no ulcer history not very much was found. That observation of his covered about six cases. Although one might miss the acute ulcer by not operating and looking properly, usually, in the absence of some degree of suggestion beforehand, in his experience it was fairly uncommon to find a large ulcer which was easily recognizable. Faced with such a problem, what was one to do? Should a gastrectomy be performed almost straight away? Or should one just tie the main vessels in the stomach or simply close the incision and leave things alone? Dr. Pullen then said that the surgeon was asked to examine such patients sometimes early, sometimes late. If the patient was examined early, he thought conservative medical management should be carried on for a while. If the patient was examined late, very often he was not in good condition. Dr. Pullen asked Dr. Morrow what in those circumstances he thought was a reasonable time to delay. Dr. Pullen knew that it was influenced by the amount and rate of bleeding. He wondered what Dr. Morrow would consider a reasonable number of pints of blood for the patient to receive before operation. Dr. Pullen then referred to operation in the acute phase; he said that in his small number of cases, patients operated on in the acute phase did not do very well, whereas if bleeding had been controlled for only a few hours they did not do so badly. In his experience age did not matter very much; if control could be maintained during the acute bleeding phase, then patients of any age could be operated on. If the surgeon decided simply to tie a ligature round the bleeding artery and leave it, often at the second operation he found that he had produced duodenal stenosis. In any case such a simple procedure was not often possible. Each case, as Dr. Morrow knew, was an individual and difficult problem. Dr. Pullen said that by and large his opinion at the moment was that, over a big series, patients in an acute bleeding phase still did better by medical than by surgical management. There was, however, still the intriguing problem of the odd patient who could be saved by surgery alone.

Dr. Morrow, in reply, said that he had stressed the fact that in 10% of their cases of chronic ulcer hæmorrhage was the only symptom. They had been amazed at their own findings. They had been even more amazed at some of the overseas findings; one centre had reported that over 20% of their patients with proven chronic ulcers had had hæmorrhage as their first symptom. Dr. Morrow said that that was why he had mentioned it, because often in the past they had thought that because the patient had no history of dyspepsia, therefore the surgeon should not be invited to examine him. Dr. Morrow had stressed the review of the 30 deaths in series, and the opinion that 14 of the patients might have been saved if the surgeon had been called in. With regard to controlling the bleeding, Dr. Morrow said that if they thought they could control it, then they were prepared to wait and make up the amount of blood lost; but the trouble arose when the bleeding did not stop. In that case it was usually from a big vessel, and he did not see how it could be stopped for the surgeon for a couple of hours. That was when they laid down the dictum that if bleeding recurred within twenty-four to forty-eight hours, surgery was to be considered. It was not fair to ask the surgeon to operate and expect him to "get away with" operation if the patient had had recurrent or continuing bleeding for four or five days. Dr. Morrow said that he could not give an estimate of how much blood should be given before the surgeon was called in; but in normal circumstances a patient rarely required more than three or four pints. If he did, bleeding was still going on. If he required 11 or 12 pints, they would consider that that was exsanguinating hæmorrhage, probably from a lesion that was amenable to surgical treatment.

DR. C. R. M. LAVERTY said that he could remember the time when the surgeon was never allowed to examine the patient until the latter was moribund; the patient was always admitted to hospital as a medical, not a surgical, emergency. The present reasonable and rational attitude of the physicians gave the surgeons a great deal more hope. There was no doubt that a series of figures could prove anything. Dr. Morrow's series was a very big series, and as he had said, it compared more than favourably with overseas series. But the fact which Dr. Morrow had mentioned earlier was very important—the occurrence of the unusual case in which the patient might be saved, because the bleeding resulted from rare and abnormal causes. Recently he had seen a very severe hæmorrhage from a duodenal diverticulum due to an annular pancreas. In another recent case, repeated massive hæmorrhages were due to erosion of the splenic artery. Such conditions simply could not be diagnosed before operation. Dr. Laverty thought that some of the questions asked at the meeting had been very pertinent. How soon should investigations be begun? In his opinion the crux of the matter was not how soon one began the investigations, but how soon one could deal with serious recurrent hæmorrhages and make a decision on them. He thought the age factor was very important; he had to be forced very hard before he would operate on anyone aged under fifty years—he would say almost dogmatically that such patients were "all medical". The older the patients grew, the better they did; the average surgeon would agree that that applied to other big surgical lesions. He did not know whether the seventy-five to eighty years age group had something that the middle age group had not. Patients with severe recurrent hæmorrhages more often than not had chronic ulcers, not malignant disease, and therefore should be given an early chance of operation; operation prolonged their lives and made them happy. Dr. Laverty said that he had also been struck with the number of patients who were admitted to surgical beds with massive hæmorrhages who had previously been absolutely symptomless—it was impossible to drag out of them a history of indigestion either before or after. Such patients nearly always had a non-malignant condition. Dr. Laverty said that his experience was that now there was closer and more rapid cooperation in hospitals between the medical and surgical sides in the matter of consultation. He did not think it possible to set about dealing with the treatment of a series of patients from a practical point of view; each case had to be judged on its merits. He did not think that prolonged blood transfusion was indicated prior to operation; the extra blood should be saved for during and after the operation.

DR. P. A. TOMLINSON spoke on the surgical aspect of gastro-intestinal hæmorrhage. He said first of all that nothing had been said about the prevention of hæmorrhage. He thought one should recognize the question of penetration of an ulcer as a prevalent predisposing factor in hæmorrhage. In many cases hæmorrhage was the initial symptom; but there were many people with chronic penetrating ulcers in the community. He thought that if a patient had a chronic penetrating ulcer, whether gastric or duodenal, he should be treated surgically; that might prevent him from getting into one of the predicaments described. Pain in the back with such lesions was a very significant symptom. Dr. Tomlinson did not believe that patients should be lost during the bleeding phase nearly so frequently as they had been lost previously. His own series covered 26 cases, and he had lost one patient. He thought that, from the surgical point of view, if they could treat the patient with hæmorrhage within the first forty-eight hours, give him a blood transfusion, and raise his systolic blood pressure to the vicinity of 100 millimetres of mercury, it should be possible to save him by operation. Operation was indicated particularly in the older group. Dr. Tomlinson went on to say that in his opinion operation for an ulcer required two things. (i) An attack on the bleeding vessel had to be made, and the bleeding had to be stopped. When the patient had large recurring hæmatemeses, often very big vessels were involved; it was foolish to expect bleeding from the splenic artery to be stopped by medical means. (ii) Not only had the bleeding to be stopped by suture of the vessel, but the gastric juices had to be stopped from passing over the vessel; merely suturing the vessel was not enough. Several times he had seen patients who had undergone ligation of a vessel alone require reoperation within a comparatively short time (days or hours) because the vessel had given way again. Dr. Tomlinson considered that the vessel should be sutured and a gastrectomy performed if the patient could be treated in the first forty-eight hours, and if his blood pressure could be raised high enough for the anæsthetist to give him an anæsthetic. There were certain important points in the gastrectomy and in the management of the patient. First of all, with regard to the anæsthetic, a cuffed tube had to be *in situ*. Secondly, especially in the cases of know ulcer, the choice of a transverse or oblique incision was often very important. That applied particularly to gastric ulcers, when the ulcer could be high up on the lesser curvature. Thirdly, there were ways of attacking chronic penetrating ulcers in which one could save much time. If the surgeon could get his finger round the ulcer, often simply by squeezing he could induce it to part company with the pancreas. He thought the surgeon should not hesitate to perform a straight dissection of the stomach from the ulcer base with scissors, leaving the ulcer base on the posterior wall of the abdomen. The ulcer could be left and the vessel on the ulcer site sutured. In duodenal ulcers, he advocated opening of the duodenum, suturing of the bleeding vessel, closure of the duodenum, and the performance of a quick proximal gastrectomy, the ulcer being left *in situ*. Even the pylorus could be left in emergency; if necessary it could be removed later. Referring to the surgical treatment of hiatus hernia, Dr. Tomlinson said that one procedure had been helpful to him. The surgeon did not like to open the chest as well as the abdomen of a patient having a hæmorrhage, who had a hiatus hernia with an ulcer in it. It was possible to pass the hand up within the sac and strip the contents off in the same manner as the placenta was stripped from the uterine wall.

Dr. Tomlinson went on to say that portal hypertension was associated with bleeding. If a blind gastrectomy was performed the wrong end of the stomach might be removed. If the patients came to operation early enough, the treatment was often splenectomy *plus* lieno-renal or porta-caval anastomosis. However, such patients were mostly treated in clinics dealing with those conditions; but the ulcer group was widespread. Dr. Tomlinson said that in these ulcer patients he would not hesitate to operate in the early stages, even during hæmorrhage. The last such patient on whom he had operated had had a hæmatemesis and melæna on the operating table, and the stomach was in a state of acute dilatation with blood; it was the first hæmorrhage, the bleeding was from the splenic artery, and the patient was aged under thirty years. With regard to the amount of blood, Dr. Tomlinson said that he thought that, if the patient was examined within the first forty-eight hours, and if enough blood could be given to raise the systolic blood pressure to 100 millimetres of mercury or more, it should be possible to operate, to stop the bleeding and to have a live patient.

DR. J. C. FITZHERBERT disagreed with one of Dr. Morrow's indications for operation—continuing or recurrent hæmorrhage after the patient's admission to hospital. Referring to such patients in the gastric and duodenal ulcer groups, Dr. FitzHerbert said that he tried to think of such patients, and treat them, on a pathological basis. A person who had a

chronic gastric or duodenal ulcer was, in actual fact, having a secondary hæmorrhage. Dr. FitzHerbert thought that when a surgeon operated on patients with chronic gastric or duodenal ulcers, it was very infrequently that he could say that any particular vessel was one that was bleeding. As a rule bleeding was occurring from a large, red, granulating, sloughing base. Dr. Morrow had shown a slide from a patient with a chronic gastric ulcer with a yellow sloughing base and blood coming conveniently from one spot. Dr. FitzHerbert asked, if the bleeding from that one spot was not an indication for operation, why bleeding from another spot, after that from the first had stopped, was an indication for operation. In other words, if a patient could have one hæmorrhage which was not severe enough for him to be operated upon, why could he not have another? Therefore, he held that the important indication for operation in recurrent and continued hæmorrhage was not the number of hæmorrhages, but the rate at which the bleeding proceeded. At the Royal North Shore Hospital of Sydney, in a series of 150 cases over a period of two years, they had found that in the conservative management of the patients it was not uncommon for bleeding to continue for a period of eight to ten days. In other words, they recognized that there was a bleeding phase, and that phase, as far as the patient's ulcer was concerned, did not stop until the factors causing the secondary hæmorrhage had been controlled. Once the infection had been controlled and epithelialization of the ulcer had commenced, then the bleeding phase of the ulcer stopped. Therefore, over that series of cases they had found that ulcers could, and did, frequently bleed recurrently for a period of eight to ten days until the secondary infection had been controlled, and that over that bleeding phase the rate at which hæmorrhage occurred diminished as the days went on. They had evolved a specific indication for operation in gastro-intestinal hæmorrhage related to gastric and duodenal ulcers. The rate of hæmorrhage which the patient was allowed as a basic indication for operation was 1000 cubic centimetres per day. If the rate of hæmorrhage exceeded that amount, then operation was indicated. Certain factors influenced the rate of hæmorrhage that was allowed, such as the patient's age; as the patient's age rose, so the permitted amount of hæmorrhage fell. In a patient aged fifty years, a bleeding rate of 750 cubic centimetres per day, if maintained after the initial hæmorrhage, was an indication for operation. In chronic duodenal or gastric ulceration with threatened pyloric stenosis the rate was cut down even further, so that a blood loss of 400 to 500 cubic centimetres per day was approaching the limit allowed. Dr. FitzHerbert believed that gastro-intestinal hæmorrhage was a medical disease that should be treated by a surgeon, provided he operated infrequently. He said that because he thought that the physicians did not resuscitate the patient sufficiently, and that the mortality rate, which in the Royal Prince Alfred Hospital series quoted by Dr. Morrow was 11·4%, could be reduced considerably provided they held on a little longer and used more blood transfusion. The mortality rate at the Royal North Shore Hospital was 8·4% over a smaller series. In the peptic ulcer group the mortality rate would be just under 4·5%, in contrast with the mortality rate of 11·4% in the gastric ulcer group, indicating that, as Dr. Morrow suggested, it was necessary to be more radical as far as surgical intervention was concerned in cases of proven chronic gastric ulceration.

Dr. Thomson, from the chair, said that they had had a most interesting paper from Dr. Morrow, as well as two very interesting surgical papers. He did not think that the surgeons had really proved their point.

VICTORIAN BRANCH NEWS.

Annual Church Services.

ON Sunday, February 10, 1957, the seventh annual special services for the medical profession will be held in St. Paul's Cathedral and St. Patrick's Cathedral, Melbourne, at 11 a.m.

The preacher at St. Paul's Cathedral will be the most Reverend the Archbishop Administrator, Dr. J. J. Booth, C.M.G., M.C., and the preacher at St. Patrick's Cathedral will be the Reverend Father John Phelan, Chaplain at the Royal Melbourne Hospital.

Members will enter the cathedrals in procession and are asked to assemble in the precincts fifteen minutes before the commencement of the services. It is the wish of the precentor that members attending St. Paul's Cathedral should assemble in the Chapter House on the second floor of the cathedral buildings, entering the buildings from the cathedral close.

It is desired that academic dress be worn, but this is not essential. All members (whether or not they are wearing academic dress) are asked to join the processions and sit together in a group.

The Branch Council invites medical students to the services and, also, to join the processions.

Separate seating will be reserved for members' families.

THE AUSTRALIAN SOCIETY OF ALLERGISTS (BRITISH MEDICAL ASSOCIATION).

THE fourth annual meeting of the Australian Society of Allergists (British Medical Association) was held at the Medical Society Hall, East Melbourne, on November 8, 9 and 10, 1956.

The following office bearers were elected: *Chairman*, Dr. Ivan Maxwell (Melbourne); *Chairman-Elect*, Dr. Bernard Riley (Sydney); *Immediate Past Chairman*, Dr. Robert S. Steel (Sydney); *Secretary-Treasurer*, Dr. R. H. O. Donald (Melbourne); *Committee Members*, Dr. P. Ward Farmer (Melbourne), Dr. D. O. Cross (Sydney), Dr. C. T. Piper (Adelaide).

The following papers were read and each was followed by a stimulating discussion in which many members took part: presidential address, "The Use of Corticotrophin and Adreno-Cortical Steroids in the Treatment of Bronchial Asthma", Dr. Ivan Maxwell; "The Skin Test", Dr. Robert S. Steel; "Medical Ethics as Applied to Allergists", discussion opened by Dr. R. H. O. Donald; "Asthma in Children", Dr. V. G. Bristow; "The Nature of the Allergic Reaction in the Mammalia", Dr. Edward Strahan; "Bacterial Sensitization", Dr. D. A. Prentice; "Experiences Abroad", Dr. Charles Sutherland; "Nervous Dyspepsia", Dr. Reay Eakin; "An Interim Report on a Daily Pollen Count", Dr. C. S. Sands.

Out of the Past.

In this column will be published from time to time extracts, taken from medical journals, newspapers, official and historical records, diaries and so on, dealing with events connected with the early medical history of Australia.

TO WILLIAM KILLICAN, CALCUTTA.[1]

[From the Wenthworth Papers.]

London,
22 December, 1785.

DEAR KILLICAN,

The bearer Mr. D'arcy Wentworth has been recommended by a particular Friend who has his Interest much at heart: permit me therefore to introduce Him to You and to request that You will render Him any Service in your Power. He has been brought up a Surgeon and goes out in that Capacity but with an Intention to remain in the Country if he meet with Encouragement to do so. You perhaps may hear of some Gentleman of your Acquaintance who may want a medical Man to attend Him as a Supordinate. In that case Mr. Wentworth might be useful as He has had the best Education and a great deal of Practice. He will be appointed a Surgeon's Assistant on your Establishment whenever the Court of Directors are at Liberty to make Nominations, that is when returns of the Servants arrive from India and there is a Vacancy. In the meantime I shall esteem myself highly obliged to you for your Endeavours to place him in the Family of some Out-Resident. He has powerful Friends but they are at present ineffectual being in the minority. This is intended merely as an introduction of the bearer and you may expect a long letter by a future conveyance.

Yours affly.,
I. ARCHDEKEY.

[D'arcy Wentworth, who later became Principal Surgeon, arrived at Sydney Cove in 1790, having left London to

[1] From the original in the Mitchell Library, Sydney.

escape from certain embarrassments; but it would seem from the foregoing letter that at an even earlier date it was deemed expedient by his friends that he should be provided with employment out of England.]

Post-Graduate Work.

THE POST-GRADUATE COMMITTEE IN MEDICINE IN THE UNIVERSITY OF SYDNEY.

THE Post-Graduate Committee in Medicine in the University of Sydney announces the following programme of courses to be held from March to May, 1957.

Annual Subscription Course.

Course of Lectures on "The Family Doctor and the Young Criminal".

The following course of four lectures arranged by the Mater Misericordiæ Hospital, North Sydney, will be open to members of the annual subscription course. All lectures will be held at the hospital beginning at 8.30 p.m.

Wednesday, March 6: "Homosexuality." (i) "Its Extent", Mr. C. J. Delaney, Commissioner of Police, New South Wales. (ii) "How the Doctor Can Help", Dr. J. A. McGeorge.

Wednesday, March 13: "The Sociological Background of the Young Criminal", Professor Norval Norris, Professor of Criminology in the University of Melbourne.

Wednesday, March 20: "Attacking the Psychiatric Causes of Crime", Dr. J. A. McGeorge .

Wednesday, March 27: "Preventive Agencies." (i) "Probation", Mr. D. C. Swanson, Principal Probation Officer, New South Wales. (ii) "Parole", Mr. Frank Hayes, Parole Officer, New South Wales.

It is expected that lectures given in this course will be published in a special issue of *The Post-Graduate Bulletin*. The annual subscription course covers attendance at lectures and other specially arranged activities, the yearly subscription being £2 2s. from July 1. The fee for resident medical officers is £1 1s.

Week-End and Metropolitan Courses.

Week-End Course in Neurology.

A week-end course in neurology will be held on Saturday morning and afternoon and on Sunday morning, March 16 and 17, at the Royal North Shore Hospital. The fee for attendance is £3 3s. The programme will be announced shortly.

Course in Ophthalmology in its Relation to General Practice and Industry.

A course in ophthalmology in its relation to general practice and industry will be held for one week, March 18 to 22, as follows:

Monday, March 18, in the Post-Graduate Theatrette, 131 Macquarie Street: 2.15 p.m., "The Red and Painful Eye" (including differential diagnosis and immediate treatment of conjunctivitis, glaucoma and uveitis), Dr. K. B. Armstrong; 3.15 p.m., "Ocular Emergencies in General Practice", Dr. Conrad Blakemore.

Tuesday, March 19, in the Ophthalmological Out-Patient Department, Royal Prince Alfred Hospital: 2.15 p.m., clinical demonstration by Dr. N. M. Macindoe and the staff.

Wednesday, March 20, in the Post-Graduate Theatrette, 131 Macquarie Street: 2.15 p.m., "Headache from an Ocular Point of View", Dr. B. Goodwin Hill; 3.15 p.m., "Squint in Children", Dr. J. Antill Pockley.

Thursday, March 21, in the Out-Patient Department, Sydney Eye Hospital: 2.15 p.m., clinical demonstration by Dr. Conrad Blakemore and the staff.

Friday, March 22, in the Post-Graduate Theatrette, 131 Macquarie Street: 2.15 p.m., "Ocular Emergencies in Industry", Dr. E. V. Waddy Pockley; 3.15 p.m., "The Eye in Vascular Disease", Dr. Frank Claffy.

The fee for attendance is £4 4s.

Week-End Course in Electrocardiography.

The following week-end course in electrocardiography will be held in the Maitland Lecture Theatre, Sydney Hospital, on Saturday and Sunday, March 23 to 24.

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED JANUARY 5, 1957.[1]

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.	Australian Capital Territory.	Australia.
Acute Rheumatism	2(1)	..	2(2)	..	..	..	..	..	4
Amœbiasis	..	..	..	..	..	..	..	..	..
Ancylostomiasis	..	..	..	..	..	..	..	..	..
Anthrax	..	..	..	..	..	..	..	..	..
Bilharziasis	..	..	..	..	..	..	..	..	..
Brucellosis	..	3	..	..	..	..	..	..	3
Cholera	..	..	..	..	..	..	..	..	..
Chorea (St. Vitus)	..	1(1)	..	..	..	..	..	..	1
Dengue	..	..	..	..	..	..	..	..	..
Diarrhœa (Infantile)	..	11(10)	7(1)	..	..	..	12	1	31
Diphtheria	..	..	..	..	3(2)	..	..	..	3
Dysentery (Bacillary)	..	..	5(5)	..	..	..	4	..	9
Encephalitis	..	9(6)	..	..	..	..	..	..	9
Filariasis	..	..	..	..	..	..	..	..	..
Homologous Serum Jaundice	..	..	..	..	..	..	..	..	..
Hydatid	..	..	..	..	..	..	..	..	..
Infective Hepatitis	26(6)	54(20)	..	7(6)	1	3(1)	1	1	93
Lead Poisoning	..	..	..	..	..	..	..	..	..
Leprosy	..	..	..	..	..	..	..	..	..
Leptospirosis	..	..	1	..	..	..	..	..	1
Malaria	..	..	3	..	..	..	..	..	3
Meningococcal Infection	2(1)	3(3)	..	..	..	..	..	..	5
Ophthalmia	..	..	..	..	..	..	..	..	..
Ornithosis	..	1(1)	..	..	..	..	..	..	1
Paratyphoid	..	..	..	..	..	..	..	1	1
Plague	..	..	..	..	..	..	..	..	..
Poliomyelitis	2(1)	2	1	..	1	..	..	..	6
Puerperal Fever	..	..	2	..	..	..	1	..	3
Rubella	..	57(38)	..	68(55)	3(2)	..	..	..	128
Salmonella Infection	..	..	..	..	..	..	..	..	..
Scarlet Fever	3(2)	13(12)	1	9(6)	1	2	..	..	29
Smallpox	..	..	..	..	..	..	..	..	..
Tetanus	..	1	..	..	..	..	..	..	1
Trachoma	..	..	..	..	1	..	..	..	1
Trichinosis	..	..	..	..	..	..	..	..	..
Tuberculosis	20(11)	14(10)	2(1)	4(3)	2(1)	4	..	..	46
Typhoid Fever	..	2(2)	..	..	..	..	..	..	2
Typhus (Flea-, Mite- and Tick-borne)	..	..	..	..	..	..	..	..	..
Typhus (Louse-borne)	..	..	..	..	..	..	..	..	..
Yellow Fever	..	..	..	..	..	..	..	..	..

[1] Figures in parentheses are those for the metropolitan area.

Saturday, March 23: Morning (chairman, Dr. K. B. Noad): 10 a.m., "Introductory Remarks", Dr. K. B. Noad; 10.15 a.m., "Theoretical Considerations", Dr. B. C. Sinclair Smith; 11 a.m., trade demonstrations of electrocardiograph machines; 11.30 a.m., "Arrhythmias", Dr. G. E. Bauer; 12.15 p.m., "Conduction Defects", Dr. J. Raftos. Afternoon (chairman, Dr. A. E. McGuinness): 2.15 p.m. to 5 p.m., symposium on "Electrocardiography in Ischæmic Heart Disease", Dr. W. A. Seldon, Dr. F. L. Ritchie and Dr. G. E. Bauer.

Sunday, March 24: Morning (chairman, Dr. Ewen Corlette): 10 a.m., "Electrocardiogram in Childhood", Dr. Douglas Stuckey; 10.45 a.m., "Electrocardiogram in Valvular and Hypertensive Heart Disease", Dr. R. G. Epps; 11.45 a.m. to 1 p.m., electrocardiographic quiz session, Dr. R. B. Blacket, Dr. Douglas Stuckey, Dr. R. G. Epps and Dr. Frank L. Ritchie.

The fee for attendance is £3 3s.

Week-End Course in Radiological Diagnosis and Techniques.

A week-end course in radiological diagnosis and techniques will be held at the Royal Prince Alfred Hospital on April 13 and 14. Lectures and demonstrations will be held on the Saturday morning and afternoon and on the Sunday morning and will cover X-ray examinations of fractures and bone injuries, of the stomach and duodenum, of the small and large bowel, of the urinary tract, of the biliary tract and of the respiratory system. The fee for attendance is £3 3s. The programme will be announced shortly.

Course in Basic Medical Sciences.

A course in the basic medical sciences will be held from April 9 to July 11, 1957. Lectures will be held at 8 p.m. in the Post-Graduate Theatrette, 131 Macquarie Street, Sydney, on Tuesday and Thursday evenings. The fee for attendance is £15 15s. The programme will be available shortly.

General Revision Course.

The twenty-eighth annual general revision course will be held for two weeks from May 6 to 17, 1957. Again the theme of the course will be therapeutics and will include a comprehensive survey of modern trends in diagnosis and treatment especially designed for use in general practice. Included in the programme will be special demonstrations, seminars on new drugs and therapeutic measures, radiographic and electrocardiographic conferences, gynæcology and obstetrics, neurology, psychiatry and pædiatrics. There will again be an open golf competition for the Post-Graduate Cup and for the Brydon Cup (country competitors), a cocktail party, a theatre party and other social activities.

Fees for attendance are £12 12s. full time) or £6 6s. (part time or one week only).

Post-Graduate Oration.

The tenth annual Post-Graduate Oration will be given by Dr. Douglas Miller on "The Medical Pioneers of Saint Vincent's Hospital, Sydney" during the annual general revision course on Wednesday, May 15, at 8.15 p.m., in the Great Hall of the University of Sydney.

Diploma Courses.

Primary F.R.A.C.S.—A tutorial course suitable for candidates for the primary F.R.A.C.S. examination will be conducted in Sydney each Wednesday afternoon from April 10 to August 21, 1957. The fee for attendance is £26 5s.

D.D.M. Part I.—A twelve weeks' course for Part I of the diploma in dermatological medicine will begin on May 13. The fee for attendance is £36 15s.

D.D.R. Part I.—A course for Part I of the diploma in diagnostic radiology will begin on March 18 for a period of four months. The fee for attendance is £47 5s.

Lecture at Balmoral Naval Hospital.

On Tuesday, February 12, 1957, at 2.15 p.m., at Balmoral Naval Hospital, Dr. W. D. Sturrock will speak on "Common Injuries Met with in Sport". This lecture is open to members of the medical profession.

Method of Enrolment.

In all cases, application for enrolment on post-graduate courses should be made to the Course Secretary, The Post-Graduate Committee in Medicine, 131 Macquarie Street, Sydney. All fees are payable in advance. Telephones: BU 4497-8. Telegraphic address: "Post-grad Sydney."

Nominations and Elections.

THE undermentioned have applied for election as members of the New South Wales Branch of the British Medical Association:

Meyers, John, M.B., B.S., 1954 (Univ. Sydney), 64 Bayswater Road, Kings Cross, New South Wales.

Shevill, Shirley, M.B., B.S., 1956 (Univ. Sydney), 142 Ramsgate Avenue, North Bondi, New South Wales.

O'Sullivan, Eugene Peter, M.B., B.S., 1955 (Univ. Sydney), 43 Helena Street, Randwick, New South Wales.

Hunt, John Francis, M.B., B.S., 1955 (Univ. Sydney), 35 Mitchell Street, Camden, New South Wales.

Botskor, Zoltan, registered in accordance with the provisions of Section 17 (1) (c) of the *Medical Practitioners Act*, 1938-1955, 789 Forest Road, Peakhurst, New South Wales.

Oliver, Richard Dalby, M.B., B.S., 1954 (Univ. Sydney), 179A Maitland Road, Mayfield, New South Wales.

Pike, Geoffrey Howard, M.B., B.S., 1953 (Univ. Adelaide), Christian Hospital, Azamgarh, U.P., India.

Goddard, Kenneth Ernest, M.B., B.S., 1956 (Univ. Sydney), Curtis Street, Oberon, New South Wales.

Diary for the Month.

FEB. 5.—New South Wales Branch, B.M.A.: Organization and Science Committee.
FEB. 6.—Western Australian Branch, B.M.A.: Branch Council.
FEB. 6.—Victorian Branch, B.M.A.: Branch Meeting.
FEB. 7.—South Australian Branch, B.M.A.: Council Meeting.
FEB. 8.—Tasmanian Branch, B.M.A.: Branch Council.
FEB. 12.—New South Wales Branch, B.M.A.: Executive and Finance Committee.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Medical Secretary, 135 Macquarie Street, Sydney): All contract practice appointments in New South Wales.

Queensland Branch (Honorary Secretary, B.M.A. House, 225 Wickham Terrace, Brisbane, B17): Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

South Australian Branch (Honorary Secretary, 80 Brougham Place, North Adelaide): All contract practice appointments in South Australia.

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